UNIVERSIDADE TÉCNICA DE LISBOA
Instituto Superior de Economia e Gestão

Mestrado em Econometria Aplicada e Previsão

Public sector wage gap and fiscal adjustments on the run-up to the euro area

Maria Manuel Trindade Campos

Junho de 2011

Orientação: Prof. Doutor Mário Centeno

Júri:

Presidente: Doutor José Manuel de Matos Passos
Vogais: Doutor Mário José Gomes de Freitas Centeno
Doutor Álvaro António da Costa Novo

Public sector wage gap and fiscal adjustments on the run-up to the euro area

Maria Manuel Trindade Campos
M.Sc.: Applied Econometrics and Forecasting
Supervisor: Mário José Gomes de Freitas Centeno
Viva Voce Exam in: 15 June 2011.

Abstract

This study examines the fiscal adjustments that took place on the run-up to the euro area and how were they reflected on the functioning of the public sector labour markets in euro area countries. OECD data are used to identify and characterize episodes of fiscal consolidation in a broad set of countries and within the 1983-2001 time-frame, but focusing, in particular, on those corresponding to the euro area founding Member States and to the 1993-1997 period. To assess developments referring to compensation of employees and how the occurrence of these episodes affected public sector employment and wage growth in countries that in the 1990s were engaged in the fulfilment of the Maastricht criteria, microeconomic data drawn from the European Community Household Panel is used. Such data is also employed to estimate the public-private wage gap, using a novel approach that allows the estimation of quantile regressions accounting for individual-specific fixed effects. Results suggest that, on the run-up to the euro area, macroeconomic and interest rate conditions made it easier to comply with the Maastricht criteria without requiring particularly strong primary expenditure cuts. Regarding, more specifically, the expenditure with compensation of employees, there is evidence of a relative moderation in terms of the admission of civil servants, wage growth and the evolution of public-private wage gaps, but it is not striking and was reversed shortly after the assessment of the criteria. This may explain why none of the fiscal adjustments identified in euro area countries in 1993-1997 was successful in persistently reducing public debt ratios.

Keywords: Fiscal adjustments, Euro area, public sector, wage gap, panel data, quantile regression

JEL codes: C21, C23, E62, H62, J45

Public sector wage gap and fiscal adjustments on the run-up to the euro area

Maria Manuel Trindade Campos
Mestrado em: Econometria Aplicada e Previsão
Orientador: Mário José Gomes de Freitas Centeno
Provas concluídas em: 15 de Junho de 2011.

Resumo

O presente estudo pretende analisar os ajustamentos orçamentais que ocorreram no período anterior ao início da UEM e de que modo os mesmos se reflectiram no funcionamento dos mercados de trabalho do sector público da área do euro. Com base em dados da OCDE, são identificados e caracterizados episódios de consolidação orçamental num conjunto alargado de países entre 1983 e 2001, mas atenção especial é devotada aos correspondentes aos países fundadores da UEM e ao período de 1993 a 1997. Com o objectivo de estudar a evolução das despesas com pessoal e de que forma a ocorrência destes episódios afectou o crescimento do emprego e dos salários no sector público em países que ao longo da década de 1990 estavam envolvidos no cumprimento dos critérios de Maastricht, são usados dados microeconómicos do Painel de Agregados Familiares da Comunidade Europeia. Estes dados são igualmente empregues para estimar prémios salariais associados ao sector público, usando uma nova abordagem que permite a estimação de regressões de quantis tendo em conta efeitos fixos específicos aos indivíduos. Os resultados obtidos sugerem que, no período anterior ao início da UEM, as condições macroeconómicas e a evolução das taxas de juro facilitaram o cumprimento dos critérios de Maastricht sem necessidade de cortes severos na despesa primária. No que respeita, mais concretamente, às despesas com pessoal, existem indícios de uma relativa moderação em termos da admissão de novos funcionários públicos, do crescimento dos salários e da evolução dos prémios salariais, mas a mesma não parece ter sido particularmente forte, verificando-se uma reversão logo após a avaliação do cumprimento dos critérios. Estes factores poderão explicar por que razão nenhum dos ajustamentos orçamentais identificados em países da UEM no período 1993-1997 produziu efeitos duradouros de redução dos rácios da dívida.

Palavras-chave: Ajustamentos orçamentais, UEM, sector público, diferenças salariais, dados em painel, regressão de quantis

Códigos JEL: C21, C23, E62, H62, J45

Acknowledgements

I would like to thank my advisor, Prof. Mário Centeno, for his guidance throughout this research project. I am also thankful to Cláudia Braz, Jorge Correia da Cunha, Ricardo Martinho, Manuel Coutinho Pereira and José Tavares for helpful comments, suggestions and occasional discussions from which this work has highly benefited. Financial support from Banco de Portugal is also gratefully acknowledged.

Contents

List of Figures

List of Tables

1 Introduction

In the last years, partially as a consequence of the financial and economic crisis, budgetary positions have been deteriorating across euro area countries. According to the European Commission Spring 2011 Forecasts for the 2011-2012 period, every Member State is expected to reduce the government deficit ratio within that horizon. In order to fulfil this goal, among other consolidation measures, some governments, namely the Portuguese, Spanish, Irish and Greek, have recently implemented cuts on the wages of civil servants.[1] Additionally, employment cuts in the public sector have also been announced in Greece and Ireland. This generalized need to engage in fiscal consolidation is not a novelty among euro area nations, since, along the 1990s, the countries that were then on the path to become members of the euro area had to reduce both their public debt and deficit ratios to comply with the convergence criteria set down by the Maastricht Treaty. However, measures such as wage and employment cuts in the public sector are unprecedented in the European context.

In order to understand what is different this time and why governments had to resort to this kind of strategies, this paper analises the fiscal adjustments that took place on the run-up to the euro area and how they were reflected on the functioning of the public sector labour markets. Two main topics are addressed. Firstly, we identify and characterize the episodes of fiscal adjustment across a broad set of OECD countries in the 1983-2001 period, but focusing more thoroughly on the eleven founding members of the euro area and Greece, in the time frame bounded by the signing of the Maastricht Treaty and the assessment of the criteria for adopting the euro (1993-1997). By performing an exercise similar to those in, for instance, Alesina and Perotti (1995), Alesina, Perotti, Tavares, Obstfeld and Eichengreen (1998) or Alesina and Ardagna (2009), we identify several stylized facts generally presented in the literature on fiscal adjustments. Additionally, we show that the episodes that took place on the run-up to the euro area were mostly made on the revenue side, did not require particularly strong consolidation efforts and did not have persistent effects in reducing public debt and deficit ratios. On a second stage, longitudinal microeconomic data covering euro area countries in the period from 1993 to 2000 is used to study how fiscal adjustments affected public sector employment, wage growth and the wage gap between civil servants and private sector workers.

[1] Throughout this paper, we use indistinctively the designations "civil servants" and "public employees" to refer to individuals working in the public sector.

The results imply that the years immediately before the adoption of the single currency were characterized by a relative moderation both in terms of the hiring of civil servants and the growth rate of public sector wages. Nonetheless, this feature is not exclusive to countries and years in which fiscal adjustments were in progress. The public wage gap is estimated using a novel approach, quantile regression for panel data, that was recently suggested in Canay (2010). The main advantage of this method is that it allows the estimation of the marginal effect of the employment sector on wages at different points of the distribution, while accounting for both observable and time-invariant unobservable factors. Therefore, this method also gives insight on the way individuals sort between the two sectors. To our knowledge, the only empirical analysis of wage gaps based on quantile regressions on longitudinal data are those performed in Bargain and Kwenda (2009) and Bargain and Melly (2008), for France. The main results concerning the public wage gap are as follows. There is evidence that, on average, public sector workers generally earn higher wages than their private sector counterparts. This gap tends to be smaller when the comparison is restricted to individuals sharing the same observable characteristics, but a non-negligible part remains unexplained. However,in the majority of countries, the mean public-private wage gap disappears when both observable and unobservable (and time-invariant) attributes are taken into account, implying that individual-specific factors such as preferences, talent or risk aversion explain the apparent wage differential between public and private sector employees. Nonetheless, different endowments and self-selection issues do not seem to be the only factors underlying the public-private gap, as we provide evidence that movements across sectors tend to entail wage changes whose sign and magnitude are consistent with the existence of a "true" public sector effect in several countries. Across the wage distribution, the disparities that remain after controlling for unobservables are mainly concentrated in the tails. In particular, at the lower end of the distribution, there is evidence of a small positive wage gap (specially in the case of female employees) in several countries, mostly arising from a positive selection effect. Results obtained for the upper quantiles of the distribution, on the contrary, point to a negative public-private gap (particularly in what refers to men), that in many cases appear to be associated with negative selection. As regards the relationship between the public wage gap and the occurrence of fiscal adjustments, the results show that the gap estimated for country-year pairs corresponding to these episodes are, on average, below the computed for the whole set of countries. However, the difference is not particulary striking and after 1997, when compliance with the Maastricht criteria was assessed, the public sector wage gap seems to have increased.

The dissertation is organized as follows. Section 2 provides a brief description of the path that led to the adoption of the euro, emphasising the importance of fiscal adjustments in the context of the European Monetary Union (EMU) and the Stability and Growth Pact. Section 3 pinpoints and characterizes episodes of fiscal adjustment, focusing more thoroughly on those referring to countries that in 1993-1997 were engaged in the fulfilment of the Maastricht convergence criteria. Section 4 sheds light on developments regarding public sector employment, wages and the public wage gap on the run-up to the euro area. Concerning the latter topic, the section presents the econometric approach used for the estimation of the gap, focusing in particular on the fixed effects quantile regression methodology. Finally, Section 5 concludes.

2 The path to the euro area - an overview[2]

The idea of creating an economic and monetary union among European Economic Community (EEC) members had been on the table since the late 1960's. However, only in 1989 the three stages that would culminate in the inception of the EMU and the adoption of a common currency were formally set down in the Delors Report. During the first stage, which started in July 1990, capital movements were liberalized within the EEC and the Maastricht Treaty, in force since 1993, established the criteria for joining the EMU. The main objective of the criteria was to ensure convergence between Member States during stage two and macroeconomic stability and currency credibility in the third stage. In particular, the countries aiming to participate in the euro area had to feature sound fiscal positions, stable exchange rates, low interest rates and price stability. Regarding, more specifically the criterion on sound fiscal positions, the Treaty states that, in order to ensure the sustainability of its public finances, in each Member State the ratio of general government deficit to GDP should not be higher than 3 per cent. Additionally, the ratio of gross general government debt to GDP should not exceed 60 per cent. These requirements are expected to safeguard against the risk of a country becoming unable to service debt relying on its own tax revenue, thereby preventing the emergence of unsustainable fiscal positions (EMI (1995)).

In the second stage of the EMU (that began in January 1994) the Sta-

[2]This section is mostly based on Obstfeld (1997), Cabral (2001) and Eichengreen and Wyplosz (1998).

bility and Growth Pact (SGP) was adopted with the objective of monitoring budgetary developments and ensuring the fulfilment of the Maastricht fiscal criteria, not only in the beginning of the euro area, but also on a sustained basis. In particular, the SGP consists of a more detailed set of rules that aim at enhancing the coordination of fiscal policies in the EMU. The Pact has both a preventive and a corrective dimension.

The preventive arm of the Pact is a surveillance mechanism that is supposed to avoid the violation of the fiscal criteria, mostly reflected on the existence of excessive deficits, i.e., deficit ratios to GDP above the 3 per cent reference value. Within this scope, Member States should submit annual Stability or Convergence Programmes (respectively if they have already adopted the euro or not). According to the Code of Conduct, the Programmes should include a medium-term budgetary objective (MTO) and the adjustments required for fulfilling that goal. Based on recommendations from the European Commission, the ECOFIN Council assesses whether each country's MTO grants room of manoeuvre to avoid an excessive deficit, while ensuring the convergence of the debt ratio to prudent levels. The Council also supervises the implementation of the Programmes and, if required, proposes additional corrective measures. In spite of these preventive mechanisms, excessive deficits may occur, resulting in the implementation of Excessive Deficit Procedures (EDP), governed by the corrective arm of the Pact.[3] Member States under EDP should take effective action in order to correct the excessive deficit within the deadline set by the Council. Non-compliance with the Council's recommendations may prompt the imposition of sanctions.

In 1994, on the basis of the data then available, all EU Member States featured excessive deficits, with the exception of Ireland and Luxembourg. Taking advantage of the 1990s' favourable economic context, most Member States engaged in deficit correction efforts and in 1998 Greece was the only country with a deficit above the 3 per cent of GDP threshold. However, debt ratios remained above the 60 per cent of GDP reference value in the majority of countries and only France, Finland, Luxembourg and the United Kingdom featured lower figures. In the other Member States the debt ratio was declining and approaching the reference value, hence the European Commission decided on the fulfilment of the criterion on government budgetary positions by every country except Greece (European Commission (1998)). Additionally,

[3]Note that the currently in force revised SGP, in addition to introducing the concept of MTO, has also broaden the scope of "exceptional circumstances" and "other relevant factors" under which the 3 per cent of GDP limit can be transcended without triggering an excessive deficit procedure.

the 1998 European Monetary Institute Convergence Report stated that, on the basis of 1997 data, all Member States except Greece and Sweden fulfilled the criteria on price stability and exchange and interest rates. Therefore, on the basis of the figures presented in Table 2.1[4], the Commission recommended the adoption of the single currency by Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland from January 1999 onwards. Greece qualified later and entered the third stage of EMU shortly after, in January 2001 (followed by Slovenia, in 2007, Cyprus and Malta, in 2008, and Slovakia, in 2009). Sweden has not yet fulfilled all of the requirements, whilst Denmark the United Kingdom exercised their opt-outs.

After 1997, fiscal consolidation stalled (or reversed) in several Member States, but this was somewhat disregarded because nominal fiscal balances were improving - Table 2.2. As this development was mostly driven by favourable cyclical conditions, when growth rates diminished, *circa* 2002, fiscal balances began to deteriorate and the 3 per cent limit was exceeded in many Member States, jeopardizing the credibility of the SGP and urging its revision (Fatas and Mihov (2009)). In 2005 a number of changes were introduced in the Pact, including the clarification of the definition of the MTO and the catching-up process necessary to reach it. The MTO is defined in terms of the cyclically adjusted balance, net of temporary measures, as a percentage of GDP. Its value takes into account the debt ratio and potential output growth, and thus can be differentiated among Member States. Implicit liabilities shall also be relevant to determine MTOs, once the criteria and modalities are established by the European Council.

[4]Table 2.1 presents the exact data on the basis of the Commission's recommendation and figures are according to the ESA-79 national accounts system. This methodology was replaced by a new one, ESA-95, which is in force since 2000. Figures were accordingly revised and therefore data in Table 2.1 does not coincide with the values presented in the following tables. It is worth highlighting that, based on the current data, France, Spain and Portugal would not have qualified for participating in the euro area in 1998 and the Greek fiscal developments would have been insufficient for joining the single currency in 2001 (see Table 2.2).

Table 2.1 Data on the basis of the assessment of the SGP criteria

	Inflation	Government budgetary position					Long-term interest rates
		Deficit (% of GDP)	Debt (% of GDP)				
			Change from previous year				
	January 1998	1997	1997	1997	1996	1995	January 1998
Reference Value	**2.7**	**3**		**-**			**7.8**
EU (15 countries)	1.6	2.4	72.1	-0.9	2.0	3.0	6.1
Belgium	1.4	2.1	122.2	-4.7	-4.3	-2.2	5.7
Germany	1.4	2.7	61.3	0.8	2.4	7.8	5.5
Ireland	1.2	-0.9	66.3	-6.4	-9.6	-6.8	6.2
Greece	5.2	4.0	108.7	-2.9	1.5	0.7	9.8
Spain	1.8	2.6	68.8	-1.3	4.6	2.9	6.3
France	1.2	3.0	58.0	2.4	2.9	4.2	5.5
Italy	1.8	2.7	121.6	-2.4	-0.2	-0.7	6.7
Luxembourg	1.4	-1.7	6.7	0.1	0.7	0.2	5.6
Netherlands	1.8	1.4	72.1	-5.0	-1.9	1.2	5.5
Austria	1.1	2.5	66.1	-3.4	0.3	3.8	5.6
Portugal	1.8	2.5	62.0	-3.0	-0.9	2.1	6.2
Finland	1.3	0.9	55.8	-1.8	-0.4	-1.5	5.9

Sources: European Commission (1998).
Note: The figures are according to the ESA-79 methodology.

3 Fiscal adjustments in the euro area: Do stylized facts apply?

The limits imposed by the Maastricht Treaty, as requirements for entering the single currency area, played a highly relevant role in the candidates' fiscal policy in the years preceding the inception of the euro area. In particular, the criterion on the government budgetary position triggered important consolidations along the 1990's in the Member States aiming to participate in the euro area (see Table 2.2). Indeed, within the 1993-1997 time span, Germany was the only country featuring a balance deterioration (although still respecting the 3 per cent of GDP deficit threshold by the end of 1997), while

Table 2.2 General government fiscal balance
(as a percentage of GDP)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Belgium	-8.16	-7.48	-5.15	-4.53	-4.02	-2.26	-0.97	-0.65	-0.08	0.35	-0.15	-0.18
Germany	-2.47	-3.01	-2.30	-9.67	-3.33	-2.64	-2.18	-1.46	1.31	-2.82	-3.65	-4.03
Ireland	-2.93	-2.70	-1.98	-2.05	-0.10	1.45	2.27	2.61	4.79	0.93	-0.31	0.41
Greece	-10.93	-11.93	-8.26	-9.06	-6.64	-5.89	-3.82	-3.10	-3.73	-4.44	-4.84	-5.71
Spain	-3.96	-7.30	-6.76	-6.48	-4.86	-3.38	-3.22	-1.43	-1.00	-0.66	-0.48	-0.23
France	-4.54	-6.42	-5.45	-5.45	-4.03	-3.32	-2.61	-1.78	-1.47	-1.55	-3.16	-4.12
Italy	-10.39	-10.05	-9.09	-7.41	-6.96	-2.67	-3.07	-1.78	-0.86	-3.10	-3.01	-3.54
Luxembourg	-0.18	1.45	2.47	2.42	1.19	3.66	3.37	3.40	5.97	6.11	2.10	0.46
Netherlands	-4.16	-2.79	-3.52	-9.22	-1.89	-1.25	-0.87	0.41	1.97	-0.25	-2.11	-3.15
Austria	-2.00	-4.40	-4.88	-5.86	-4.14	-1.95	-2.48	-2.39	-1.86	-0.15	-0.87	-1.57
Portugal	-4.16	-7.50	-7.25	-5.04	-4.47	-3.51	-3.39	-2.79	-2.97	-4.32	-2.89	-2.95
Finland	-5.44	-8.28	-6.74	-6.16	-3.52	-1.28	1.58	1.59	6.90	5.01	4.08	2.42

Sources: OECD.
Notes: The table presents the net lending (+) or net borrowing (-) of general government based on the ESA-95 methodology, including one-off proceeds relative to the allocation of mobile phone licences.

the biggest improvements took place in Italy and Belgium. Table 2.2 points out that, after the introduction of the euro, deficits increased in several Member States. This outcome, although partially explained by the deterioration of the macroeconomic scenario, raises the question of why were some consolidation efforts more effective and persistent than others. In this section, we undertake an exercise similar to those in, for instance Alesina and Perotti (1995), Alesina et al. (1998) and Alesina and Ardagna (2009), with the purpose of identifying in the euro area Member States the empirical regularities usually found in the literature on fiscal adjustments.

In order to analyse the size and composition of the fiscal adjustments, we begin by defining a fiscal impulse[5] as a "discretionary change in the budgetary position of the government". This is the definition of fiscal impulse typically employed in the literature on this matter (see, *inter alia*, Alesina and Perotti (1995)). As previously mentioned, budgetary developments are influenced by business cycle fluctuations and interest rate conditions. We are not inter-

[5]The usage of the term "fiscal impulse" *versus* "fiscal stance" has risen some discussion in the literature and different definitions have been provided by different authors. Nonetheless, there is now a relative consensus on the idea that they essentially refer to the same concept, thus throughout this paper we use them as synonyms.

ested in developments resulting from automatic responses to economic growth or changes in interest-related expenditure, which is ultimately related to a stock of public debt built-up along several years. Hence, with the purpose of neutralizing these effects and identifying the changes in the budgetary position that derive from government's discretionary policy choices or structural trends, we use the annual change in the cyclically-adjusted primary deficit, as a percentage of potential GDP, as a measure of the fiscal stance.[6] In particular, we computed this indicator for a sample of 19 countries (including the eleven euro area founding Member States, Canada, Denmark, the United Kingdom, Greece, Japan, Norway, Sweden and the United States of America), from 1980 to 2003. As data is unavailable for some country-year pairs, our sample comprises a total of 398 observations.

Alesina and Perotti (1995) proposes the following classification of the fiscal stance in terms of the magnitude of the annual change in the cyclically-adjusted primary deficit as a percentage of GDP: years of neutral fiscal policy are those in which such variable stands between -0.5 and 0.5 p.p.; fiscal policy is considered to be loose for values between 0.5 and 1.5 p.p.; very loose for figures equal or above 1.5 p.p.; tight if it is between -0.5 and -1.5 p.p. and very tight for values equal or below -1.5 p.p. As most studies on this matter, we use the Alesina and Perotti (1995) classification of the fiscal impulse and consider years of fiscal adjustment those in which the change in the cyclically adjusted primary deficit is below -1.5 p.p. of GDP, in order to identify "large" changes in the fiscal stance and rule out minor adjustments. Note that this definition only allows the identification of yearly adjustments, which means that, when the measure of fiscal impulse declines for consecutive years we consider several annual adjustments instead of a single, multi-year episode. Other studies, such as Barrios, Langedijk and Pench (2010), follow slightly different approaches and consider adjustment episodes that last longer than

[6]More precisely, we use OECD figures referring to the underlying primary balance, available on the Economic Outlook database. In addition to being corrected for the effects of the business cycle, the figures are also net of the impact of temporary measures (including those related to the selling of mobile phone licences). Throughout this paper, whenever cyclically-adjusted variables are mentioned, assume that they are also corrected for the impact of temporary measures (for more details regarding the methodology employed by the OECD for computing these variables, see Joumard, I. *et al.* (2008), Accounting for one-off operations when assessing underlying fiscal positions, Working Paper 642, OECD.). Note, however, that it is impossible to completely isolate the policy induced effects. In fact, cyclical adjustment methodologies are unable to fully eliminate the effects of the business cycle and the identification of temporary operations demands a substancial amount of information. Moreover, a certain degree of endogeneity remains present, as governments' decisions are obviously influenced by the macroeconomic context.

one year.[7]

Overall, we identified 55 episodes of fiscal adjustment, distributed as depicted in Figure 3.1.[8] This figure shows, in the one hand, that the majority (37 out of 55) of the episodes of fiscal adjustment refers to euro area countries[9], with non-euro area nations featuring, on average, a looser fiscal stance. On the other hand Figure 3.1 also shows that episodes of fiscal adjustment are mostly concentrated in two periods, 1980-1984 and 1993-1997. Between 1985 and 1992 episodes of fiscal adjustment are less frequent in our sample, and the interruption of this period of generally looser fiscal policy coincides with the signature of the Maastricht Treaty. Moreover, our results also show that the majority of the adjustment episodes identified in 1993-1997 refer to developments regarding countries that adopted the euro in 1999 and that after 1997 (when the assessment underlying the decision to participate in euro area was made), the number of countries featuring loose fiscal stance has generally increased.

Panel A of Figure 3.2 shows that, on average, there is no obvious relationship between the magnitude of the adjustments and the *actual* general government balance in the year preceding the episodes.[10] In fact, on the one hand, several episodes correspond to situations in which countries recorded striking general government deficits in the previous year. On the other hand, the figure shows that some of the largest adjustments took place in countries with relatively comfortable fiscal positions, featuring small deficits or, in some cases, surpluses. It is also interesting to notice that in the period between the signing of the Maastricht Treaty and the assessment of the budgetary criteria, 80 per cent of the adjustment episodes identified in euro area

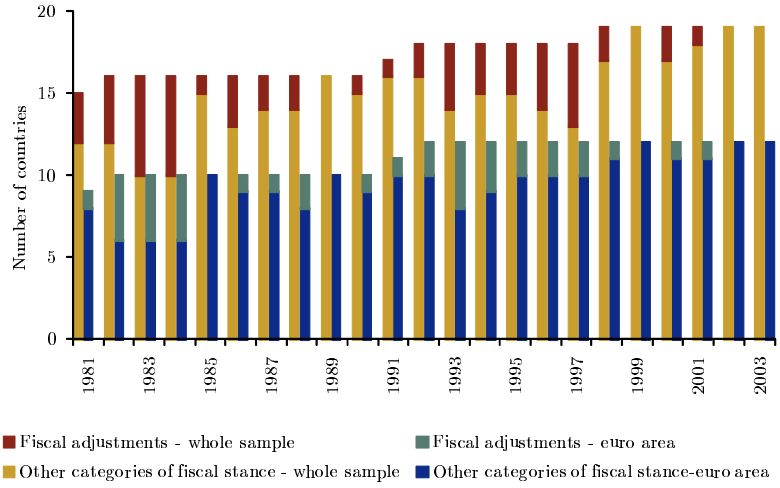
[7]In particular, Barrios et al. (2010) considers two kinds of fiscal adjustment: "cold shower" episodes (that correspond to years in which the primary balance increases by at least 1.5 p.p. of GDP, coinciding with the definition we use) and also "gradual consolidations" (if the primary balance does not deteriorate by more than 0.5 p.p. in each of three consecutive years).

[8]Table A.1, in Appendix A, provides a list of the fiscal adjustments identified, as well as the number of consecutive years during which the cyclically-adjusted primary balance continues to increase after the adjustment. Note that adopting a multi-year definition would lead to the identification of a different number of episodes, but the underlying developments in the cyclically-adjusted primary deficit would be essentially the same.

[9]Through this paper we use the label "euro area" to refer to the eleven countries that adopted the euro in 1999 as well as Greece.

[10]However, if one considers the sub-sample comprising non-euro area countries only, there is a slightly negative relationship between the two variables. Alternatively, if one focuses on countries with deficits higher than 3 per cent of GDP, the relationship is clearly negative.

Figure 3.1 Fiscal stance: proportion of countries featuring fiscal adjustments

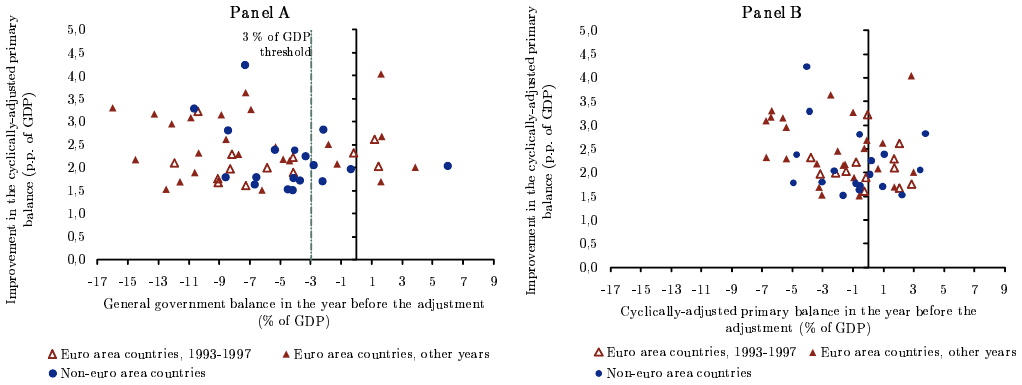


Sources: Author's calculations based on data from the OECD.
Notes: The label "euro area" refers to the 11 founding members of euro area as well as Greece. Episodes included in "other categories of fiscal stance" refer to country-year pairs for which the change in the cyclically adjusted primary balance is below 1.5 p.p. of potential GDP.

countries correspond to situations in which the general government balance was below the -3 per cent of GDP threshold. This is consistent with the idea that, in these cases, deficit reduction efforts may have been triggered by the need to fulfil the prerequisites for adopting the euro. On its turn, Panel B of Figure 3.2, which plots the magnitude of the adjustment against the fiscal position as measured by the cyclically-adjusted primary deficit excluding the impact of temporary measures, depicts a negative relationship, implying that larger adjustments tend to occur in countries that featured higher primary deficits in the previous year.

The pieces of evidence presented so far may suggest that the tightening of fiscal policy observed in this period was triggered by the need to comply with the Maastricht budgetary criteria. However, figures in Table 3.1 imply that it may not have been the case. In fact, Table 3.1 shows that the estimated probability of engaging in a fiscal adjustment is enhanced in the case of observations referring to the 1993-1997 period, but euro area membership, *per se*, has the opposite - although not statistically significant - impact (see the results obtained using specifications 1 and 2). Moreover, there is evidence that, even though observations referring to euro area Member States *and* to the 1993-1997 period are estimated to have a higher probability to record

Figure 3.2 Episodes of fiscal adjustment: Initial position and improvement



Sources: Author's calculations based on data from the OECD.

fiscal adjustments (as shown by the positive sign of the marginal effect of the interaction between these variables), the impact of combining these two attributes is not statistically significant (see Specification 3). Finally, in spite of the fact that variables representing indicators of the initial fiscal position (general government balance and public debt in the previous year) appear to have significant effects on the probability of undertaking fiscal adjustments, when covariates representing the interaction between those indicators *and* non-compliance with the criteria for accessing the euro area are added to the equation (specifications 2 and 3), the respective estimated impact is not significant.[11]

Summary statistics in Table 3.2 show that in the whole sample the measure of fiscal stance is slightly negative (-0.11 p.p. of GDP), while in adjustment years the average primary deficit decline stands at 2.32 p.p. of GDP (and is explained, on average, by a 1.01 p.p. drop in primary expenditure and a 1.31 p.p. revenue increase). As pointed out in Table 3.2, figures computed only for euro area countries along the entire time span are not dramatically different from those referring to the whole sample, but within the euro area sub-sample there is an interesting feature. In fact, although the episodes identified between 1993 and 1997 are, on average, less marked than those identified before 1993, they are achieved through sharper cuts in *total* expenditure. However, the figures for *primary* expenditure retrenchment are similar. Given that primary expenditure is the part of governments' spend-

[11]See Barrios et al. (2010) for the exercise upon which the estimation in Table 3.1 is loosely based.

Table 3.1 Determinants of the probability to engage in a fiscal adjustment

	Specification 1	Specification 2	Specification 3	Covariates description
$Balance_{(t-1)}$	-0.024*	-0.013	-0.013	General government balance in the previous year, % of GDP
	(0.006)	(0.008)	(0.008)	
$Excessive\ Deficit_{(t-1)}$	-0.028	-0.060	-0.061	=1 if the general government deficit was above 3% of GDP in the previous year
	(0.048)	(0.064)	(0.064)	
$Public\ Debt_{(t-1)}$	-0.002*	-0.004*	-0.004*	Public debt in the previous year, % of GDP
	(0.001)	(0.002)	(0.002)	
$Excessive\ Public\ Debt_{(t-1)}$	0.041	-0.157	-0.159	=1 if the public debt was above 60% of GDP in the previous year
	(0.047)	(0.115)	(0.114)	
Favourable cyclical position	0.005	0.013	0.011	=1 if the output gap increased *vis-à-vis* the previous year
	(0.039)	(0.041)	(0.040)	
Euro area membership	-0.006	-0.030	-0.042	=1 if the observation refers to an euro area Member State
	(0.035)	(0.038)	(0.045)	
Period from 1993 to 1997	0.079*	0.085*	0.056	=1 if the observation refers to a year between 1993 and 1997
	(0.047)	(0.047)	(0.078)	
Interaction effects(1)				
$Balance_{(t-1)}$*$Excessive\ Deficit_{(t-1)}$	-	-0.016	-0.016	
	-	(0.012)	(0.012)	
$Pub.\ Debt_{(t-1)}$*$Excess.Pub.Debt_{(t-1)}$	-	0.00	0.002	
	-	(0.002)	(0.002)	
Euroarea membership*Period 1993-1997	-	-	0.031	
	-	-	(0.098)	
Observations	397	397	397	
Log-pseudolikelihood	-142.41	-139.31	-139.20	

Sources: Author's calculations based on data from the OECD.
Notes: The table presents the estimated marginal effects of changes in the covariates on the probability to engage in a fiscal adjustment and the correspondent robust standard-errors (in parentheses). The dependent variable is a dummy that takes the value 1 for observations referring to country-year pairs for which a fiscal adjustment was identified. The marginal effects are evaluated at the mean of the covariates, except in the case of binary variables, for which they represent the discrete change from 0 to 1. Marginal effects tagged with * are significant, at least, at the 10% level.
(1) The marginal effect of a change in two interacted variables, x_1 and x_2, was computed as $\frac{\Delta^2 F(u)}{\Delta x_1 \Delta x_2}$ or $\frac{\Delta \frac{\delta F(u)}{x_1}}{\Delta x_2}$ (respectively if x_1 and x_2 are dummy or if one of them is continuous) and the standard-errors were obtained using the Delta method. In both cases, we use the Stata *inteff* package, described in Norton, Wang and Ai (2004).

ing that actually depends on its discretionary decisions, this finding suggests that the 1990's budgetary improvements, shown in Table 2.2, have benefited from the decline in interest rates that took place in this period (on average, the change in interest payments in euro area countries in 1993-1997 corresponds to less than half of the observed outside this interval) and did not result from particularly strong efforts in terms of expenditure retrenchment.

Table 3.2 Average change in cyclically-adjusted fiscal variables (p.p. of potential GDP)

	Number of Observations	Fiscal impulse	Change in the cyclically-adjusted total expenditure	Change in the cyclically-adjusted primary expenditure	Change in the cyclically-adjusted total revenue
Entire sample	398	-0.11	0.03	0.02	0.12
		(1.34)	(1.15)	(1.05)	(1.06)
of which euro area countries	254	-0.14	0.05	0.03	0.17
		(1.38)	(1.27)	(1.14)	(1.12)
Episodes of fiscal adjustment	55	-2.32	-0.80	-1.01	1.31
		(0.66)	(1.02)	(0.8)	(0.89)
of which euro area countries	37	-2.38	-0.79	-1.00	1.38
		(0.63)	(1.05)	(0.81)	(0.95)
before 1993	21	-2.47	-0.61	-0.90	1.57
		(0.64)	(0.98)	(0.83)	(0.89)
in 1993-1997	13	-2.13	-0.72	-0.89	1.24
		(0.43)	(0.98)	(0.66)	(0.9)
after 1997	3	-2.88	-2.42	-2.15	0.73
		(1.03)	(0.46)	(0.52)	(1.45)

Sources: Author's calculations based on data from the OECD.
Note: Standard-deviations in parentheses.

Alesina and Ardagna (2009) classifies fiscal adjustments as successful or unsuccessful according to their *ex-post* performance in terms of public debt reduction. Based on the criterion proposed by these authors, we consider an episode of fiscal adjustment to be successful if, three years after its beginning, the cumulative decline in the debt to GDP ratio is sharper than 3.6 p.p., which is the value of the 25th percentile of the distribution of the cumulative change in the debt ratio in all episodes. According to this definition, we identified 14 successful and 41 unsuccessful fiscal adjustments, of which 5 and 32, respectively, refer to euro area countries. Between 1993 and 1997, none of the 13 episodes identified within the euro area sub-sample is successful, suggesting that consolidation efforts in the run-up to the euro area inception, although effective in terms of compliance with the budgetary criteria, do not seem to have had persistent effects in terms of public debt reduction.[12] In fact, we replicated the calculations presented so far but taking

[12]Previous empirical studies, such as Alesina and Perotti (1996*b*), assessed the success of fiscal adjustments according to the persistence of the decline in the primary deficit instead of focusing on the post-episode debt level. As pointed out in Barrios et al. (2010), both criteria for evaluating success entail pros and cons and this is a somewhat arbitrary choice. In order to assess the robustness of our findings, we checked if the adoption of alternative definitions would lead to significantly different results and concluded that it is not the case. For instance, defining successful adjustments as those in which, in the three

into account actual deficits and identified a higher number of adjustments within the 1993-1997 time span (19 instead of 13), which implies that cyclical and interest rate developments along this period had a positive impact on public finances. In particular, these developments seem to have made it easier to fulfil the requirements for joining the euro area without sizeable consolidation measures, which may explain the lack of persistence of the effects of the adjustments.

Standard-deviations presented in Table 3.3 provide evidence that, in successful and unsuccessful adjustments, deficit reduction is, on average, statistically significant. Moreover, as shown in Figure 3.3, most adjustments in our sample are based on both expenditure retrenchment and revenue increase. In the majority of successful adjustments, cyclically-adjusted revenue improves (by 0.94 p.p., on average), but deficit reduction tends to be predominantly made on the expenditure side (primary expenditure declines, on average, by 1.39 p.p in these years). On the contrary, unsuccessful deficit reductions are revenue-based, with the contribution of cuts on the expenditure side averaging at 38 per cent. Another interesting feature presented in Table 3.3 is the fact that successful adjustments are not necessarily those in which the cyclically-adjusted primary balance improves the most. Indeed, the average improvement in successful episodes is very similar to the one referring to the unsuccessful adjustments (2.33 and 2.32 p.p., respectively).

Our findings so far are broadly in line with those in Alesina et al. (1998), that suggests that the persistence of fiscal adjustments depends not only on the magnitude of the deficit cuts, but also, and specially, on its composition. In fact, we estimated the probability of success of fiscal adjustments, using a *probit* specification[13], and found evidence that, besides the variables expressing the initial public finances position, the only covariate that seems to be significant is that referring to the change on the cyclically-adjusted primary expenditure.

In particular, Table 3.4 shows that the probability of success is enhanced by sharper expenditure cuts (while greater revenue improvements have a negative effect on the probability to succeed). Regarding the coefficient representing the magnitude of the adjustment, our results imply that sharper deficit reductions have a positive impact on the adjustments' likelihood to

years after the episode, the cyclically-adjusted deficit is, on average, at least 2 p.p. below the level recorded in the tightning year, would lead to the identification of 12 successful episodes (instead of 14), of which 2 would refer to euro area countries in the period between 1993 and 1997. For further details, see Table A.1, in Appendix A.

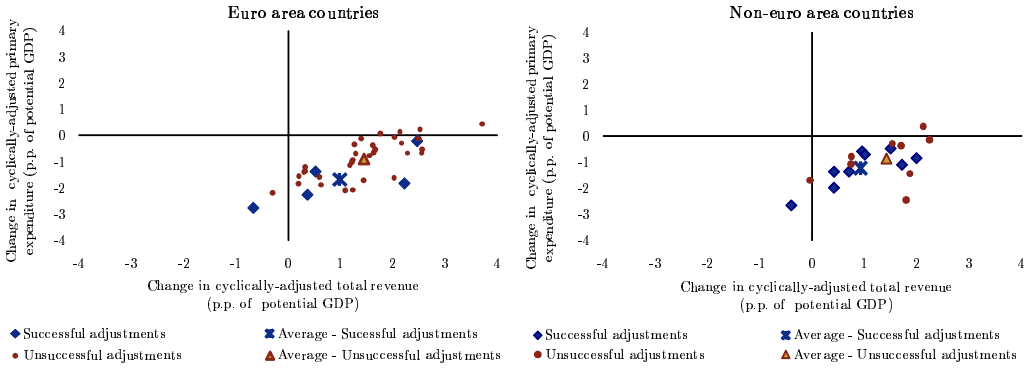
[13]See Alesina and Ardagna (1998) and Barrios et al. (2010) for similar exercises.

Table 3.3 Episodes of fiscal adjustment: Average change in cyclically-adjusted fiscal variables
(p.p. of potential GDP)

	Number of Observations	Fiscal impulse	Change in primary expenditure	Change in total revenue
Total				
Entire sample	398	-0.11	0.02	0.12
		(1.34)	(1.05)	(1.06)
of which euro area countries	254	-0.14	0.03	0.17
		(1.38)	(1.14)	(1.12)
Episodes of fiscal adjustment				
Entire sample	55	-2.32	-1.01	1.31
		(0.66)	(0.8)	(0.89)
of which euro area countries	37	-2.38	-1.00	1.38
		(0.63)	(0.81)	(0.95)
Successful episodes				
Entire sample	14	-2.33	-1.39	0.94
		(0.65)	(0.81)	(0.94)
of which euro area countries	5	-2.66	-1.68	0.98
		(0.84)	(0.97)	(1.33)
Unsuccessful episodes				
Entire sample	41	-2.32	-0.88	1.44
		(0.67)	(0.77)	(0.85)
of which euro area countries	32	-2.34	-0.89	1.45
		(0.6)	(0.75)	(0.88)

Sources: Author's calculations based on data from the OECD.
Notes: Standard-deviations in parentheses; Figures are adjusted for the effects of the economic cycle, as well as temporary measures.

Figure 3.3 Episodes of fiscal adjustment: contribution of the expenditure and revenue sides



Sources: Author's calculations based on data from the OECD.

succeed, but it is not statistically significant. Following Barrios et al. (2010), in order to deal with a possible selection bias related to the fact that omitted factors that determine the decision to undertake fiscal consolidation may be correlated with those that determine the persistence of its effects, we also estimate the probability of success using a Heckman *probit* selection model. The results based on this approach are broadly the same, but it is worth highlighting that there is now evidence that euro area membership *or* inclusion in the 1993-1997 period have a negative and statistically significant impact on the adjustments' probability to succeed, while a favourable cyclical position increases the likelihood of success. Moreover, the magnitude of the marginal effect of the change in the cyclically-adjusted primary expenditure is reduced by more than half when estimated using this method, but conclusions regarding its sign and significance still hold. Given that there is clear evidence of the importance of the composition of fiscal adjustments to explain its (un)success, in what follows we focus on the contribution of the major expenditure and revenue items for the fiscal balance improvements identified in both the successful and unsuccessful adjustments.

Table 3.5 depicts the composition of revenue developments in the fiscal adjustments identified in our sample. As previously mentioned, in both successful and unsuccessful fiscal balance improvements, revenues tend to increase, but this is more obvious in the latter case (in unadjusted terms, such increase amounts to 1.47 p.p., comparing with 0.84 p.p. in successful adjustments). Additionally, Table 3.5 shows that, in both cases, the most important share of revenue increases stems from improvements in tax re-

Table 3.4 Probability of success of fiscal adjustments

	Probit Specification [1]	Heckman sample selection model [2]	Covariates description
$Balance_{(t-1)}$	0.044*	0.046*	General government balance in the previous year, % of GDP
	(0.020)	(0.013)	
$Public\ Debt_{(t-1)}$	0.006*	0.004*	Public debt in the previous year, % of GDP
	(0.002)	(0.001)	
Favourable cyclical position	0.179	0.037*	=1 if the output gap increased *vis-à-vis* the previous year
	(0.159)	(0.019)	
Euro area membership	-0.175	-0.107*	=1 if the observation refers to an euro area Member State
	(0.124)	(0.030)	
Period from 1993 to 1997	-0.134	-0.211*	=1 if the observation refers to a year between 1993 and 1997
	(0.090)	(0.083)	
Magnitude of the adjustment	-0.003	0.019	Change in the cyclically-adjusted primary deficit, excluding one-off factors, p.p. of potential GDP
	(0.064)	(0.013)	
Change in primary expenditure	-0.163*	-0.069*	Change in the cyclically-adjusted primary expenditure, excluding one-off factors, p.p. of potential GDP
	(0.064)	(0.040)	
Number of observations	55	397	
Log-pseudolikelihood	-16.69	-151.50	

Sources: Author's calculations.
Notes: The table presents the estimated marginal effect of changes in the covariates on the probability of success of fiscal adjustments, as well as the correspondent robust standard-errors (in parentheses).The marginal effects are evaluated at the mean of the covariates, except in the case of binary variables, for which they represent the discrete change from 0 to 1. * signals significance, at least, at the 10% level.
(1) The dependent variable is a dummy that takes the value 1 when a fiscal adjustment is classified as successful. Thus this estimation is conditional on a fiscal adjustment being undertaken.
(2) This specification is a Heckman *probit* two-step regression. The selection equation used in the first-step refers to the decision to undertake a fiscal adjustment and is the same as Specification 3 in Table 3.1. The dependent variable in the second-step equation is a dummy that equals 1 when a fiscal adjustment is classified as successful, but, as opposed to the *probit* specification, this estimation also takes into account observations for which fiscal consolidations were not identified. The null hypothesis of independence between the two equations is rejected (p-*value*=0.00), which justifies the usage of the Heckman method.

ceipts, specially those referring to direct taxes. Based on previous literature, we expect that, in successful adjustments, improvements in direct tax receipts are basically explained by the contribution of taxes on corporations. Such a development would not necessarily result from tax rate rises, but from a base effect related to the fact that, according to Alesina and Perotti (1996*a*), profits typically increase during successful adjustments. Additionally, in unsuccessful adjustments the contribution of taxes on households and corporations to increases in direct taxes tends to be quite similar. Regarding indirect taxes, we conclude that they increase more sharply in unsuccessful adjustments than in successful.

The only point of divergence from the results usually presented in the literature refers to the average change in the Social Security contributions. In fact, while previous studies have shown that, on average, this item tends to remain almost unchanged in successful adjustments and to increase in unsuccessful ones, in our sample Social Security contributions decline (by 0.2 p.p.) in the first. Table 3.5 also shows that, albeit not striking, there are differences between developments in the sub-sample comprising euro area countries between 1993 and 1997 and the remaining observations. In particular, our results show that revenue as a whole tends to increase less sharply in the adjustments selected in that sub-sample, but fiscal revenue typically features bigger enhancements. Given that Alesina and Ardagna (2009) has shown that fiscal adjustments based on tax revenue are less likely to be successful, these developments on the revenue side may explain why, out of the 13 episodes identified in euro area countries between 1993 and 1997, none is considered to be persistent in terms of public debt reduction (and only two would comply with the deficit-based success criterion - see Table A.1, Appendix A).

Table 3.5 Composition of fiscal adjustments: average change in major revenue items
(p.p. of GDP)

	Number of Observations	Change in total revenue	Change in direct taxes	Change in indirect taxes	Change in Social Security contributions
Total					
Entire sample	398	0.13	0.04	0.06	0.05
		(1.2)	(0.77)	(0.51)	(0.44)
of which euro area countries	254	0.19	0.07	0.08	0.05
		(1.2)	(0.74)	(0.5)	(0.49)
Episodes of fiscal adjustment					
Entire sample	55	1.31	0.82	0.36	0.12
		(1)	(0.68)	(0.56)	(0.46)
of which euro area countries	37	1.33	0.77	0.41	0.19
		(1.01)	(0.67)	(0.48)	(0.44)
in 1993-1997	13	1.13	0.81	0.43	0.12
		(0.68)	(0.59)	(0.34)	(0.32)
other years	24	1.44	0.74	0.40	0.24
		(1.15)	(0.72)	(0.54)	(0.5)
Successful episodes					
Entire sample	14	0.84	0.98	0.17	-0.20
		(0.86)	(0.63)	(0.52)	(0.28)
of which euro area countries	5	0.83	1.10	0.01	-0.25
		(1.24)	(0.92)	(0.64)	(0.36)
in 1993-1997	0	-	-	-	-
		-	-	-	-
other years	5	0.83	1.10	0.01	-0.25
		(1.24)	(0.92)	(0.64)	(0.36)
Unsuccessful episodes					
Entire sample	41	1.47	0.8	0.4	0.2
		(1)	(0.7)	(0.57)	(0.46)
of which euro area countries	32	1.41	0.71	0.47	0.26
		(0.97)	(0.62)	(0.42)	(0.42)
in 1993-1997	13	1.13	0.81	0.43	0.12
		(0.68)	(0.59)	(0.34)	(0.32)
other years	19	1.60	0.65	0.50	0.36
		(1.11)	(0.65)	(0.48)	(0.46)

Sources: Author's calculations based on data from the OECD.
Notes: The episodes of fiscal adjustment were identified according to the fiscal impulse measure, based on the cyclically-adjusted primary deficit net of temporary measures. The remaining variables are not adjusted. Standard-deviations in parentheses.

Regarding the developments on the expenditure side, as shown in Table 3.3, their contribution is more important in successful adjustments than in unsuccessful. The fact that more persistent budgetary improvements are achieved through expenditure retrenchment[14] rather than revenue increases is a feature commonly identified in the literature (see, for instance, Alesina and Ardagna (2009)). In order to analyse the composition of expenditure cuts in fiscal adjustments, we present, in Table 3.6, a breakdown by its major components.

Table 3.6 shows that, in successful adjustments, the items compensation of employees and social transfers explain together almost 60 per cent of the drop in primary expenditure, both declining significantly in these years.[15] On the other hand, while public investment also typically decreases during successful adjustments, subsidies tend to remain relatively stable (even increasing in the successful episodes identified within the euro area sample). The composition of expenditure retrenchment in unsuccessful adjustments is quite different. In these cases, the bulk of the expenditure contraction relies on important cuts on public investment and compensation of employees and subsidies feature small retrenchments, while social transfers slightly increase.

The analysis of Table 3.6 also points to several interesting features regarding developments in the 1993-1997 period in countries that were then on the path to become members of euro area. In the first place, as previously mentioned, there is evidence that cuts in primary expenditure tend to be less marked in these countries, particularly in the years from 1993 to 1997. Moreover, in the entire sample, most of expenditure retrenchment in adjustment years is made by cutting down expenses related to public investment and compensation of employees, but the contribution of the latter item is relatively lower in the 1993-1997 period. It is also worth mentioning that, while considering the whole sample every expenditure item declines during adjustments, in this period, on average, social transfers increased marginally. These differences in terms of the composition of expenditure cuts may explain why,

[14]Recall that our analysis is based on changes on variables measured relative to GDP. Therefore, developments regarding expenditure as a ratio to GDP should be analysed with particular caution, as they can be affected by denominator effects.

[15]It should be emphasised that, as unemployment benefits are an important share of social transfers, the evolution of this item is particularly sensitive to cyclical conditions. In order to assess whether the decrease in social transfers just described is reflecting the behaviour of automatic stabilizers, we analysed the change in the cyclical component of expenditure during adjustment episodes. We concluded that in the majority of successful episodes the change in the cyclical component was negative. This implies that the developments regarding social transfers presented in Table 3.6 do not seem to be primarily driven by cyclical conditions, thus do not reflect the impact of automatic stabilizers.

Table 3.6 Composition of fiscal adjustments: average change in selected primary expenditure items
(p.p. of GDP)

	Number of Observations	Change in primary expenditure	Change in prim. expend. excluding comp. of employees	Change in compensation of employees	Change in social transfers	Change in subsidies	Change in public investment
Total							
Entire sample	398	0.08	0.11	-0.03	0.10	-0.04	-0.04
		(1.77)	(1.53)	(0.42)	(0.66)	(0.23)	(0.29)
of which euro area countries	254	0.10	0.12	-0.02	0.11	-0.05	-0.04
		(1.7)	(1.47)	(0.41)	(0.66)	(0.26)	(0.31)
Episodes of fiscal adjustment							
Entire sample	55	-0.99	-0.69	-0.30	-0.12	-0.08	-0.29
		(1.65)	(1.36)	(0.51)	(0.61)	(0.28)	(0.36)
of which euro area countries	37	-0.72	-0.49	-0.23	-0.01	-0.04	-0.33
		(1.57)	(1.3)	(0.49)	(0.58)	(0.31)	(0.41)
in 1993-1997	13	-0.64	-0.41	-0.23	0.03	-0.04	-0.33
		(1.09)	(0.92)	(0.37)	(0.39)	(0.28)	(0.57)
other years	24	-0.76	-0.54	-0.23	-0.03	-0.05	-0.33
		(1.79)	(1.49)	(0.56)	(0.67)	(0.33)	(0.31)
Successful episodes							
Entire sample	14	-2.13	-1.52	-0.61	-0.65	-0.03	-0.25
		(0.9)	(0.77)	(0.22)	(0.45)	(0.28)	(0.29)
of which euro area countries	5	-2.40	-1.83	-0.57	-0.96	0.15	-0.44
		(0.85)	(0.72)	(0.2)	(0.53)	(0.38)	(0.38)
in 1993-1997	0	-	-	-	-	-	-
		-	-	-	-	-	-
other years	5	-2.40	-1.83	-0.57	-0.96	0.15	-0.44
		(0.85)	(0.72)	(0.2)	(0.53)	(0.38)	(0.38)
Unsuccessful episodes							
Entire sample	41	-0.60	-0.40	-0.20	0.06	-0.09	-0.31
		(1.67)	(1.4)	(0.54)	(0.55)	(0.28)	(0.38)
of which euro area countries	32	-0.46	-0.28	-0.17	0.14	-0.07	-0.31
		(1.49)	(1.26)	(0.51)	(0.43)	(0.29)	(0.42)
in 1993-1997	13	-0.64	-0.41	-0.23	0.03	-0.04	-0.33
		(1.09)	(0.92)	(0.37)	(0.39)	(0.28)	(0.57)
other years	19	-0.33	-0.20	-0.14	0.21	-0.10	-0.29
		(1.73)	(1.46)	(0.59)	(0.45)	(0.31)	(0.29)

Sources: Author's calculations.
Notes: The episodes of fiscal adjustment were identified according to the fiscal impulse measure, based on the cyclically-adjusted primary deficit net of temporary factors. The remaining variables are not adjusted. Standard-deviations in parentheses.

out of the 5 successful adjustments identified in euro area countries, none of them is within the 1993-1997 time span.

The developments in the composition of expenditure cuts just described are very much in line with what the literature generally finds in successful and unsuccessful adjustments. As a matter of fact, adjustments with less persistent effects tend to rely on cuts in public investment and leave transfers and subsidies almost unchanged, whilst in successful adjustments governments typically do not refrain from cutting the latter outlays (Alesina and Perotti (1996*a*)). Expenditure retrenchments in successful adjustments are generally based on cuts in wages and salaries, while in the unsuccessful ones this item is almost unaffected (see Alesina and Perotti (1996*a*) or Alesina et al. (1998)).

4 The effects of fiscal adjustments in the public sector labour markets on the run-up to the euro area

Out of the 55 episodes of fiscal adjustment identified in the previous section, 13 coincide with country-year pairs referring to countries that in 1993-1997 were on the way to become euro area members. Results obtained specifically for this set of countries and within this time frame point to a lack of persistence of the effects of these adjustments in terms of public debt ratio reduction (and also of general government deficit decrease). This outcome is not surprising, given that these episodes were mostly focused on the revenue side and, when comparing developments within this sub-sample with the remaining observations, we conclude that governments did a smaller effort both in terms of primary expenditure retrenchment and revenue enhancement.

The fact that these episodes coincide with a period of relatively lower interest rates suggests that compliance with the Maastricht criteria was achieved by taking advantage of a window of opportunity that allowed governments to avoid excessive deficits through a reduction of interest payments and, consequently, total expenditure, without major discretionary retrenchment in specially sensitive primary expenditure items, such as social transfers and compensation of employees. In particular, regarding cuts in the latter of these items, we found evidence that its contribution to savings in primary expenditure is less relevant in the adjustments identified in the 1993-1997 period in euro area Member States than in the entire sample. This feature

may suggest that the fact that these countries were engaged in fulfilling the Maastricht criteria did not have major effects on the functioning of the public sector labour markets.

In order to assess if the developments regarding variables that determine government expenditure with compensation of employees reflect consolidation efforts and/or help to explain the lack of persistence of the fiscal adjustments identified between 1993 and 1997, for the remainder of this paper we will focus on the analysis, at the microeconomic level, of the evolution of employment, wages and the public wage gap in European countries prior to euro area's inception and in its immediate aftermath.

4.1 Data

We use data drawn from the European Community Household Panel (ECHP). This dataset, made available by the Statistical Office of the European Communities (Eurostat), is a longitudinal survey of households and individuals that covers all the 15 pre-enlargement EU Member States. Eight waves of data have been released, spanning from 1994 to 2001. However, not all countries participated in the survey from the beginning: Austria, Finland and Sweden were only added in the second, third and fourth years, respectively. The main advantage of this data source is that, since the questionnaire and methodology are standardized, cross-country comparisons are allowed. The panel is supposed to be representative of the EU population both in cross-sectional and longitudinal terms, at the level of households and individuals. In our analysis, in particular, we use data extracted from the Personal File, that includes extremely diverse information obtained from personal interviews. It comprises variables referring to, for instance, gender, age, education, wage and other income sources, marital status and occupation. A few preliminary points should be made regarding some of the variables that are used in the sequel to estimate the public-private wage gap.

First of all, the information on educational attainment is restricted to a very general categorical variable that distinguishes between third level education, second stage of secondary education and less than second stage of secondary education. To capture the effects of schooling, we use dummies for these three categories in the earnings regressions. Secondly, there is no information on the individuals' total experience. To control for tenure, we use a variable constructed from the year of start of current job, but it only accounts for job-specific experience (note, however, that we also include age

in our regressions, thus we expect this shortcoming to be controlled for). Finally, we would like to use gross amounts and an hourly measure as a proxy for the individuals' earnings, but the former information is not available for Luxembourg and the latter is not available in the ECHP, at all.[16] Instead, we use the logarithm of the net monthly wage as a measure of individual earnings. Still, other shortcomings remain unsolved. In the first place, the wage variables in the ECHP do not include elements such as performance-related and in-kind payments, that can be an important part of the individuals' total earnings (particularly in the private sector). In the second place, we are not able to quantify differences between sectors stemming from pension entitlements, health-care schemes or implicit benefits such as life-long job protection. Note additionally that, while most of the other variables refer to the year of the interview, those related to individual earnings report values for the year prior to the survey. Thus, for the purpose of our analysis, we consider that the period covered is actually 1993-2000.

4.1.1 Data treatment

The first step in the data treatment procedure refers to one of the most important variables in our analysis: monthly wage and salary earnings. We detected the existence of abnormal responses in this variable and chose to eliminate individuals reporting wage and salary earnings below the 1^{st} or above the 99^{th} percentile of the respective country's wage distribution. Regarding schooling, in the case of individuals for which the information is missing in one year but available in other(s), the latter was used to replace non-responses. We also checked for longitudinal inconsistency in terms of schooling, gender and the year of start of current job and, when detected, tried to correct them. Finally, we focused on the analysis of panel attrition.

Attrition is substantial in our panel. In fact, only half of the individuals that responded to the survey at least once remain in the panel until the eighth wave. If the differences between the individuals that exit and stay in the panel are not statistically significant and, in particular, if attrition is exogenous in the sense that it is not related to the variable of interest, sample depletion is not expected to generate estimation biases, although it tends to cause a loss of efficiency (see Peracchi (2002)). In order to assess to what extent

[16]It is worth mentioning the we are actually able to approximate hourly earnings using information on the weekly number of working hours, but, since it is self-reported, it may not be accurate and measurement errors are typically common. Therefore, we chose not to use it.

is attrition problematic, we undertook an exercise based in Gong and van Soest (2002) and estimated, for each country and each wave, the probability to exit the panel between t and $t+1$ as a function of the covariates usually included in Mincerian equations, a public sector dummy, the logarithm of monthly wage and the number of minutes taken to complete the individual questionnaire. Results show that, in most cases, the logarithm of monthly wage and the sector, which are the more sensitive variables in our analysis, are not significant determinants of attrition. Therefore, we decided to use the original (unbalanced) panel and did not undertake further adjustments to control for attrition.

4.1.2 Sample selection

Besides performing the data treatment procedures mentioned above, we selected the sample that is actually relevant for our analysis according to several criteria. In particular, we excluded the observations corresponding to individuals that are not working with an employer in paid employment, do not have a full-time job, do not report whether they work in the public or in the private sector, are not of working age (ie, that are younger than 15 or older than 65 years) or are not followed for, at least, two consecutive years. Moreover, as we are only interested in developments regarding euro area countries, we also dropped the observations corresponding to Denmark, the United Kingdom and Sweden. Finally, we detected that the sample referring to Belgium suffered considerable depletion along the eight years of the ECHP (between the first and the last waves, the sample size decreased by 87.2 per cent), particularly after the fifth. As the small size of the Belgian sample may compromise the validity of the results, we will consider its data only until 1997. By restricting the sample according to these conditions, we ended up with 223,694 observations, that correspond to 50,034 individuals, distributed by country as depicted in Table 4.1.

Table 4.1 Number of individuals by country

	1993	1994	1995	1996	1997	1998	1999	2000
Germany	6 781	7 633	7 104	3 983	3 779	3 554	3 465	2 987
Netherlands	2 149	2 603	2 641	2 645	2 577	2 604	2 635	2 215
Belgium	955	1 043	886	729	542	-	-	-
Luxembourg	719	762	2 257	2 026	1 960	1 954	1 826	1 567
France	3 006	3 381	3 229	2 909	2 527	2 361	2 283	1 939
Ireland	1 775	2 107	1 879	1 757	1 625	1 439	1 157	921
Italy	3 278	3 856	3 714	3 433	3 255	3 096	2 974	2 430
Greece	1 586	1 923	1 824	1 738	1 631	1 558	1 579	1 435
Spain	2 610	3 008	2 846	2 716	2 644	2 662	2 635	2 265
Portugal	2 680	3 140	3 210	3 277	3 316	3 371	3 394	3 005
Austria	-	1 890	2 206	2 104	1 999	1 849	1 712	1 449
Finland	-	-	2 278	2 599	2 526	2 417	1 974	1 726
Total	25 539	31 346	34 074	29 916	28 381	26 865	25 634	21 939

Sources: Author's calculations based on data from the ECHP.

4.2 Exploratory analysis

Table 4.2 compares the share of public sector employees in the total employees aged between 15 and 65 years, as reported in the Eurostat's NewCronos database with the sub-sample of ECHP we are using. It shows that, while in the first case public employment represents, on average, 26.2 and 26.4 per cent (respectively in 1993 and 2000) of the total, in our ECHP sub-sample such share is slightly different.[17]

Approximately 87.6 per cent of the individuals that report being a public sector employee have remained in that sector during the entire time span covered by the panel, while 7.9 per cent report having worked in both sectors in the period considered. This information is of high interest for our analysis, as the fact that the variable "sector" is not time-invariant enables the estimation of parameters associated with it controlling for the existence of individual and time fixed effects.

[17]Note that discrepancies regarding the share of public employees as reported in the NewCronos database and the ECHP may be explained by the fact that, in the the first case, we are using the "Public administration and defence and compulsory social security", "Education" and "Health and social work" branches of NACE (Classification of Economic Activities in the European Community) as a proxy for public sector. Therefore, we are also capturing private sector individuals working in the areas of health and eduction.

Table 4.2 Proportion of public sector employees in the work force (per cent)

	Eurostat		ECHP	
	1993	2000	1993	2000
Germany	21.3	25.1	32.7	26.2
Netherlands	30.3	28.3	28.6	25.4
Belgium(1)	32.5	33.6	26.4	26.8
Luxembourg	21.9	27.1	18.2	19.7
France	29.3	29.5	25.8	24.9
Ireland	24.6	22.1	23.5	22.0
Italy	28.1	29.0	38.6	37.5
Greece	29.3	28.8	46.4	39.4
Spain	21.8	20.6	32.8	25.8
Portugal(2)	21.0	21.5	22.5	21.1
Austria(1)	22.0	22.3	21.2	22.2
Finland(1)	32.3	28.9	46.2	39.3

Sources: Author's calculations based on data from the ECHP and Eurostat's Labour Force Survey (except in the case of Portugal, for which National Accounts data are used).
(1) In the case of Belgium, the table compares the proportion of public employees in the workforce in 1993 and 1997. For Austria and Finland the earlier figures refer to 1995.
(2) The Labour Force Survey data features a structural break in the case of Portugal. Thus, as an alternative, we use National Accounts data. Such information is only available from 1995 onwards, therefore the earlier figures for Portugal refer to that year.

Table 4.3 compares public and private sector employees across a set of individual characteristics as of time of the first and last waves of the ECHP. It shows, in particular, that public employees are, on average, older and more experienced than their private sector counterparts. There is also evidence that, in every country in our sample with the exception of Greece in 1993, the proportion of women in the public sector is higher than in the private sector. Finally, Table 4.3 indicates that the percentage of individuals reporting tertiary educational level is considerable higher amongst public employees.

The fact that public and private sector employees are different in terms of the individual characteristics depicted in Table 4.3 brings about differences in what regards their wages. In fact, as shown in Table 4.4, in general, the average monthly wage is higher among public sector employees. In the first wave of the ECHP the difference averages at 14.8 per cent, ranging from 3.2 per cent in Belgium to 28.8 per cent in Portugal.

As shown in Figure 4.1, the raw wage gap between the public and the private sectors narrowed along the 1993-2000 period in most countries, with the exception of Belgium, Ireland, Greece and Portugal (where it widened by

Table 4.3 Public *vs* private sector employees: summary statistics

	Age (average, years)		Married (percentage)		Males (percentage)		Terciary Education (percentage)		Tenure (average, years)	
1993										
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Germany	40.6	39.0	70.3	69.8	58.3	71.8	35.2	20.9	13.7	11.2
Netherlands	39.9	37.5	65.3	66.5	67.9	78.4	41.2	17.2	13.9	11.4
Belgium	41.2	37.6	62.3	67.9	42.9	69.0	58.3	29.9	17.1	13.0
Luxembourg	37.1	36.7	59.5	65.0	61.1	70.1	35.9	16.2	14.4	11.4
France	40.4	38.4	65.8	63.7	42.6	65.4	34.0	21.4	16.3	12.6
Ireland	39.5	35.3	75.6	57.3	54.8	71.3	37.6	16.1	16.2	10.9
Italy	41.9	36.6	80.6	64.1	63.5	69.9	11.0	4.3	17.7	13.3
Greece	40.4	36.5	80.0	65.5	68.9	65.2	38.5	21.9	15.6	9.4
Spain	40.8	38.7	74.6	68.5	60.5	75.4	50.0	18.3	15.9	12.3
Portugal	40.9	36.6	79.3	65.4	46.9	64.9	19.0	2.6	16.3	11.7
Austria(1)	39.7	36.0	67.8	57.6	54.3	71.9	21.0	4.2	10.7	8.6
Finland(1)	43.2	40.1	76.0	66.2	39.7	62.1	51.3	32.4	10.8	8.7
2000										
	Age (average, years)		Married (percentage)		Males (percentage)		Terciary Education (percentage)		Tenure (average, years)	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Germany	42.5	40.6	66.6	68.0	52.9	68.9	43.5	26.6	11.7	9.7
Netherlands	42.8	39.6	61.5	62.3	63.9	76.7	25.4	13.7	11.5	9.1
Belgium(2)	43.0	38.4	62.1	62.5	43.4	67.0	69.7	41.1	16.3	10.8
Luxembourg	40.0	37.3	59.1	59.1	67.5	70.2	29.9	22.0	n.a.	n.a.
France	43.0	39.6	65.6	57.9	42.1	61.7	38.2	32.9	15.5	11.4
Ireland	43.1	36.7	70.0	56.4	55.2	66.7	49.3	21.2	15.0	8.3
Italy	43.8	37.7	76.0	66.7	56.4	68.6	17.4	6.7	16.0	10.7
Greece	42.4	36.3	75.6	59.5	60.6	64.1	45.6	21.6	14.5	7.6
Spain	41.4	37.0	70.9	63.2	55.0	68.9	61.2	31.3	13.4	8.3
Portugal	40.9	36.4	74.3	66.9	40.9	61.2	32.0	6.2	13.9	9.8
Austria	41.4	37.6	64.5	54.0	53.6	70.2	26.5	5.5	14.2	11.0
Finland	44.1	40.0	71.4	58.6	35.9	62.6	57.3	35.7	12.0	8.3

Sources: Author's calculations based on ECHP microdata.
Notes:**(1)** Data for Austria and Finland refer to 1994 and 1995, respectively. **(2)** Data for Belgium refer to 1997.

3.0, 4.3 and 1.0 p.p., respectively). In the last wave of the survey Portugal continued to feature the highest public-private wage gap (29.8 per cent), while in the case of Finland there is evidence that public sector employees earn, on average, consistently less than those in the private sector (according to 2000 data, the differential in this country stands at -2.3 per cent.). In terms of hourly wages, the gap between public and private sectors is larger (it averages at 17.3 per cent and 17.2 per cent, respectively in the first and last

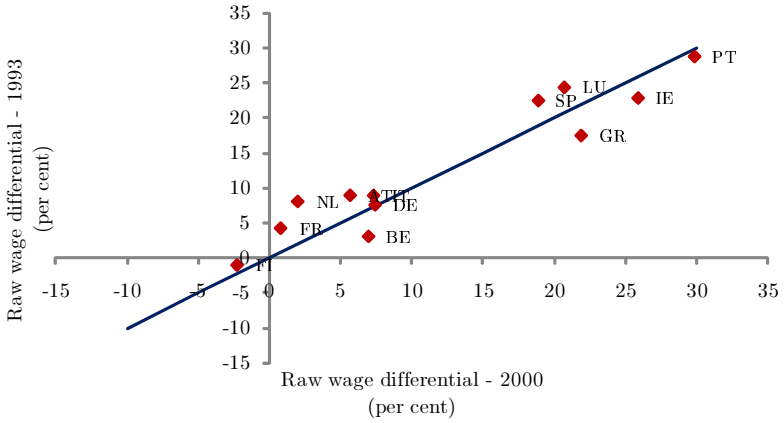
Table 4.4 Monthly wage: summary statistics
(in euro[(1)])

	1993									
	Mean		Standard Deviation		Median		Skewness		Hourly Wages - Mean	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Germany	1 464	1 352	596	544	1 278	1 278	1.1	1.2	8.9	8.0
Netherlands	1 394	1 280	414	401	1 361	1 203	0.8	1.1	8.9	7.9
Belgium	1 253	1 213	367	429	1 215	1 116	0.9	1.4	8.0	7.3
Luxembourg	2 570	1 943	926	876	2 454	1 735	0.4	1.2	16.0	11.8
France	1 517	1 451	664	743	1 359	1 230	1.8	1.9	9.6	8.7
Ireland	1 418	1 093	517	492	1 333	1 004	0.6	1.0	9.2	6.5
Italy	934	850	252	268	878	775	2.0	1.5	6.2	5.2
Greece	555	458	172	182	528	411	1.2	1.7	3.5	2.7
Spain	1 037	804	366	351	962	721	0.9	1.6	6.8	4.7
Portugal	531	378	244	175	462	324	1.1	2.0	3.5	2.2
Austria[(2)]	1 420	1 292	457	471	1 308	1 221	0.8	0.9	8.6	7.9
Finland[(2)]	1 152	1 163	329	349	1 076	1 093	1.1	1.0	7.5	7.2

	2000									
	Mean		Standard Deviation		Median		Skewness		Hourly Wages - Mean	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Germany	1 682	1 558	599	594	1 554	1 444	1.0	1.2	10.1	9.2
Netherlands	1 614	1 581	505	547	1 522	1 452	1.0	1.1	10.7	9.9
Belgium[(3)]	1 439	1 339	417	447	1 363	1 239	1.4	1.7	9.1	8.1
Luxembourg	3 043	2 413	1 148	1 124	2 853	2 140	0.7	1.2	19.2	15.1
France	1 633	1 620	647	794	1 524	1 377	1.5	1.7	10.5	10.3
Ireland	2 407	1 784	868	659	2 291	1 651	0.6	1.0	16.4	10.9
Italy	1 133	1 050	277	327	1 085	981	1.5	1.3	7.9	6.5
Greece	916	715	262	296	880	646	0.8	1.8	6.2	4.3
Spain	1 342	1 088	478	456	1 240	964	1.0	1.5	8.9	6.5
Portugal	775	544	372	254	673	464	1.0	2.2	5.3	3.4
Austria	1 423	1 343	446	422	1 313	1 272	1.2	1.0	8.8	8.2
Finland	1 413	1 445	399	432	1 346	1 346	1.1	1.1	9.2	9.0

Sources: Author's calculations based on ECHP microdata.
Notes:**(1)** The information on wages and salaries was originally expressed in national currency, but we converted it in euro to ensure cross-country comparability. **(2)** Data for Austria and Finland refer to 1994 and 1995, respectively. **(3)** Data for Belgium refer to 1997.

Figure 4.1 Public *vs* private sector: Raw wage differential



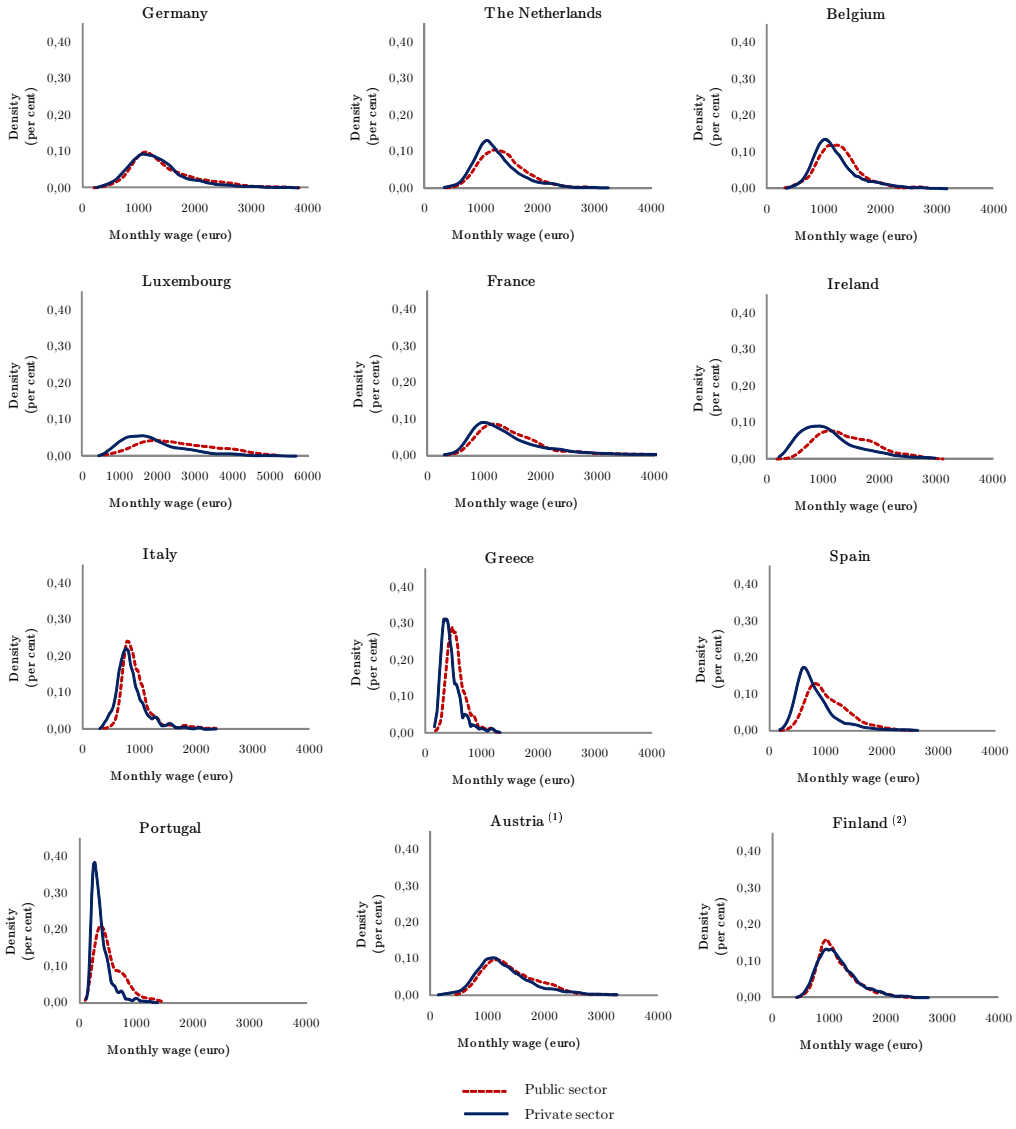
Sources: Author's calculations based on ECHP microdata.
Notes: The raw wage gap is measured as the difference between the public and private sector average wages as a percentage of the first.

waves), which is explained by the fact that the average number of working hours per week is higher in the private sector (a feature that is observable in every country in our sample).

We also find important differences between the two sectors' wage distributions. In the first place, the coefficients of variation computed using the figures in Table 4.4 are generally higher in the private sector, implying that the wage distribution tends to be more compressed in the public. However, Figures 4.2 and 4.3 show that the densities vary greatly across countries.

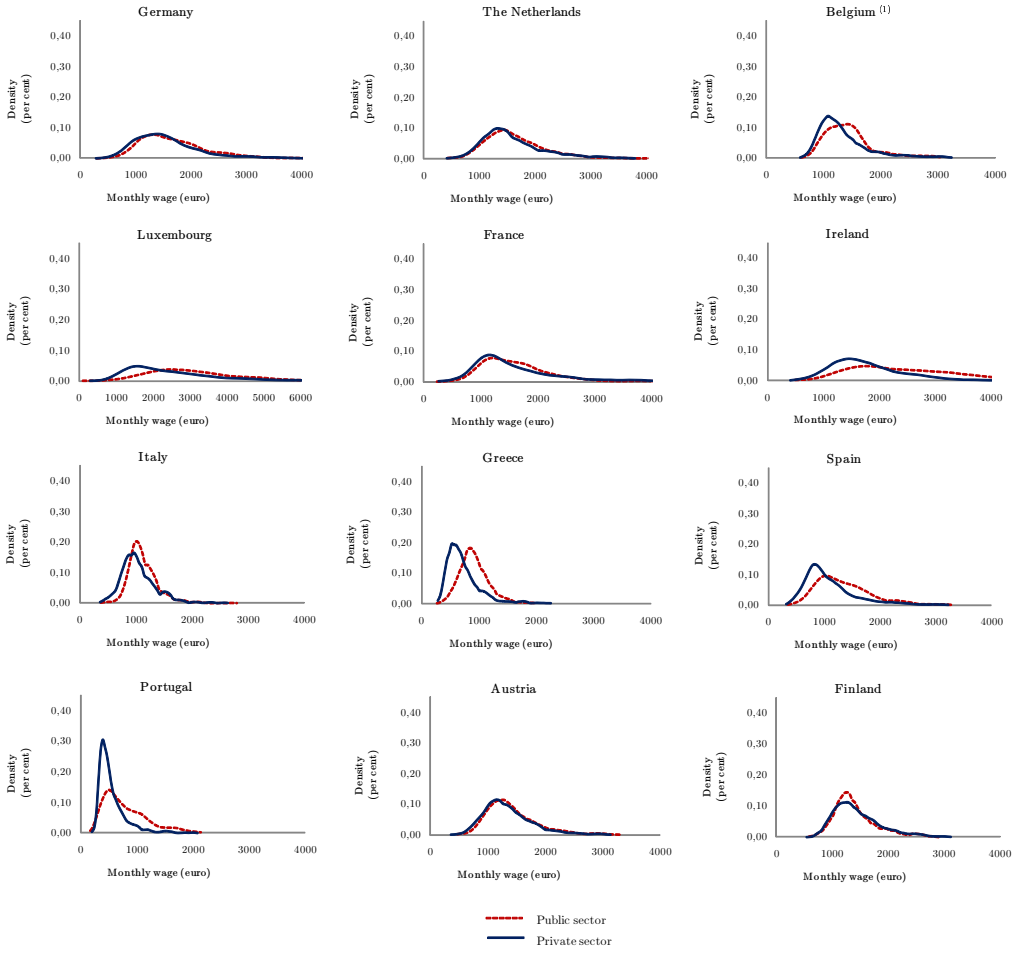
In fact, while there are countries, such as Germany, France and Luxembourg, in which both sectors' wage distributions are flat, in Italy, Greece and Portugal they are clearly leptokurtic. A within-country comparison between the distributions referring to the public and private sector wages also points out several interesting differences. On the one hand, in the cases of Germany or Austria, the wage distribution in the private sector is very similar to that of public employees. On the other hand, data concerning countries such as Greece, Spain or Portugal provide evidence that the distributions of public and private sector wages are quite different. In these cases, the latter tends to be relatively skewed to the right, featuring a longer right tail, with the probability mass concentrated around lower wage levels.

Figure 4.2 Estimated density functions for public and private sector monthly wages - 1993



Sources: Author's calculations based on ECHP microdata.
Notes: The figures depict, for each country, the distribution of monthly wages estimated using the Epanechnikov kernel function.
(1) Data refers to 1994; **(2)** Data refers to 1995.

Figure 4.3 Estimated density functions for public and private sector monthly wages - 2000



Sources: Author's calculations based on ECHP microdata.
Notes:The figures depict, for each country, the distribution of monthly wages estimated using the Epanechnikov kernel function.
(1) Data refers to 1997.

The comparison between densities estimated based on the 1993 data, depicted in Figure 4.2, and those concerning the 2000 data, in Figure 4.3, shows that in most countries the distributions of both public and private sector wages did not change dramatically along the 1993-2000 period, although they typically became flatter and more disperse.

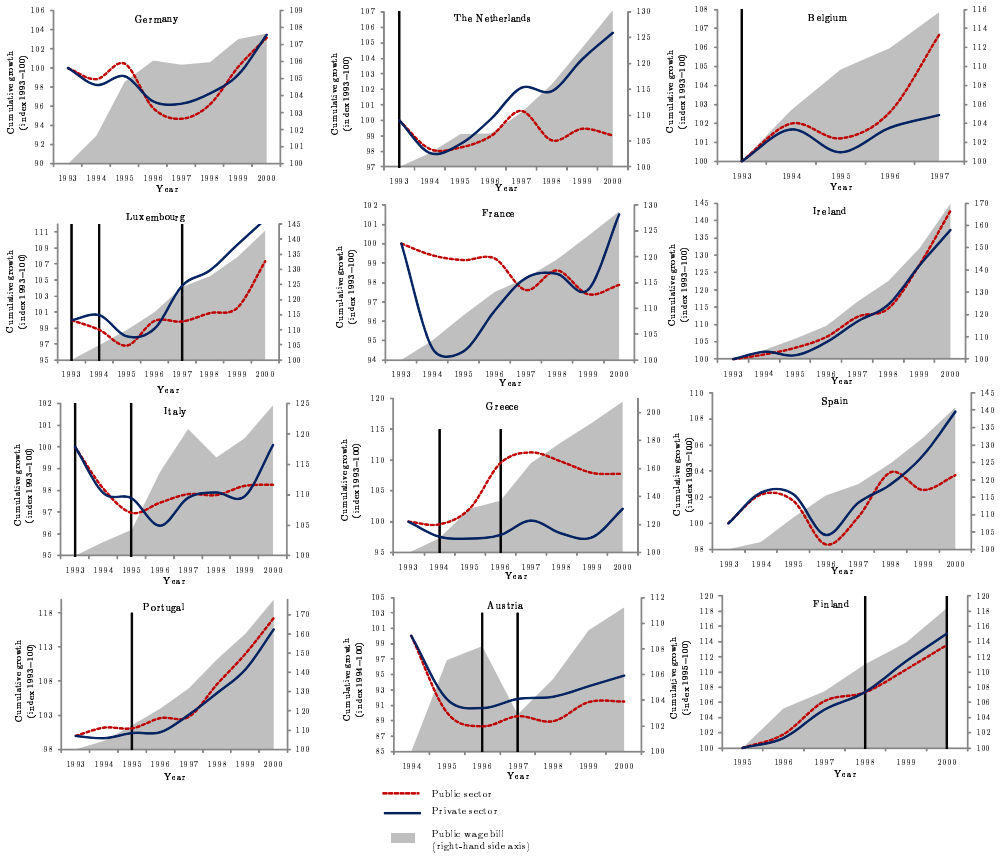
Figure 4.4 shows that, in our ECHP sample, wages in the public and

private sectors typically feature similar growth paths (which is particularly obvious in the cases of Portugal, Ireland and Finland). However, there is considerable variation across countries. For instance, in the case of The Netherlands and Spain, in the second half of the period under analysis it is particulary noticeable a differential between the two sectors that stems from a deceleration observed in the public sector. On average, real public wages increased by 7.5 per cent between 1993 and 2000 (in cumulative terms) in the set of countries in our sample. The growth rate of public sector wages ranges between 42.8 per cent, obtained for Ireland, and -8.5 per cent, computed for Austria. Wages increased more sharply in the private sector (8.8 per cent) and the only countries in which the opposite happened are Ireland, Belgium, Greece and Portugal. Additionally, there is also evidence that, in most countries in our sample, the annual growth of real public wages between 1993 and 1997 was below the average computed for the entire 1993-2000 period. After 1997, the growth rate of real wages typically increased in the public sector.

When it comes to the relationship between the growth of public wages and the identification of fiscal adjustments, Figure 4.4 provides mixed evidence. While there are episodes that were preceded by a deceleration of public wages (Luxembourg in 1994, for instance), in other cases (such as Greece, in 1996) public wages accelerated before the adjustment. On the other hand, data suggests that the growth rate of public wages increased immediately after several adjustments, but there are also cases in which it does not seem to have happened. Table 4.5 shows, indeed, that in our sample there is no obvious pattern between the occurrence of fiscal adjustments and developments regarding the average public wage in the previous year: several episodes were preceded by a decrease in the average public sector wage, but in others the opposite holds. A more consensual feature is the fact that the average public wage increased in the year immediately following the fiscal adjustment. All in all, these pieces of evidence seem to suggest that in our sample there is no apparent relationship between the episodes of fiscal adjustment and developments referring to the public sector wages.

Figure 4.4 also shows the evolution of the public sector wage bill along the period covered by the ECHP, showing that it increased, in many cases considerably, in every country in our sample. Moreover, immediately before some episodes of fiscal adjustment there seems to have been a deceleration of the public wage bill and strong increases immediately after. However, in the majority of cases, we do not find any obvious relationship between the occurrence of fiscal adjustments and the evolution of the public expenditure

Figure 4.4 Public vs private sector: Cumulative growth rate of real wages



Sources: Author's calculations. Data on public and private sector wages is from the ECHP, deflated by the annual Consumer Price Index from the Ameco dataset. Data on the wage bill is from OECD.
Note:The vertical lines represent episodes of fiscal adjustment.

related to compensation of employees. What appears to be clear in most countries is that the wage bill increased considerably less in the first half of the period under scrutiny and generally accelerated in the more recent years.

Table 4.5 Fiscal adjustments and public sector wages and employment

Episode	Public sector wages (average, in euro)			Public sector employment (as a percentage of total)		
	t-1	t	t+1	t-1	t	t+1
Belgium; 1993	-	1 413	1 441	-	32.5	33.2
The Netherlands; 1993	-	1 629	1 599	-	30.3	30.4
Luxembourg; 1993	-	2 834	2 801	-	21.9	21.0
Italy; 1993	-	1 153	1 130	-	28.1	28.9
Luxembourg; 1994	2 834	2 801	2 744	21.9	21.0	23.4
Greece; 1994	849	845	867	29.3	30.6	29.7
Finland; 1994	-	-	1 244	-	-	32.3
Italy; 1995	1 130	1 118	1 123	28.9	29.1	28.8
Portugal; 1995	669	668	678	-	21.0	21.2
Greece; 1996	867	930	945	29.7	29.6	30.0
Austria; 1996	1 402	1 373	1 394	22.0	22.3	22.8
Luxembourg; 1997	2 832	2 830	2 860	25.1	24.4	24.7
Austria; 1997	1 373	1 394	1 383	22.3	22.8	22.9
Finland; 1998	1 321	1 335	1 373	31.2	30.4	29.1
Finland; 2000	1 373	1 413	-	29.1	28.9	-

Sources:Author's calculation based on data from ECHP and Eurostat's NewCronos.

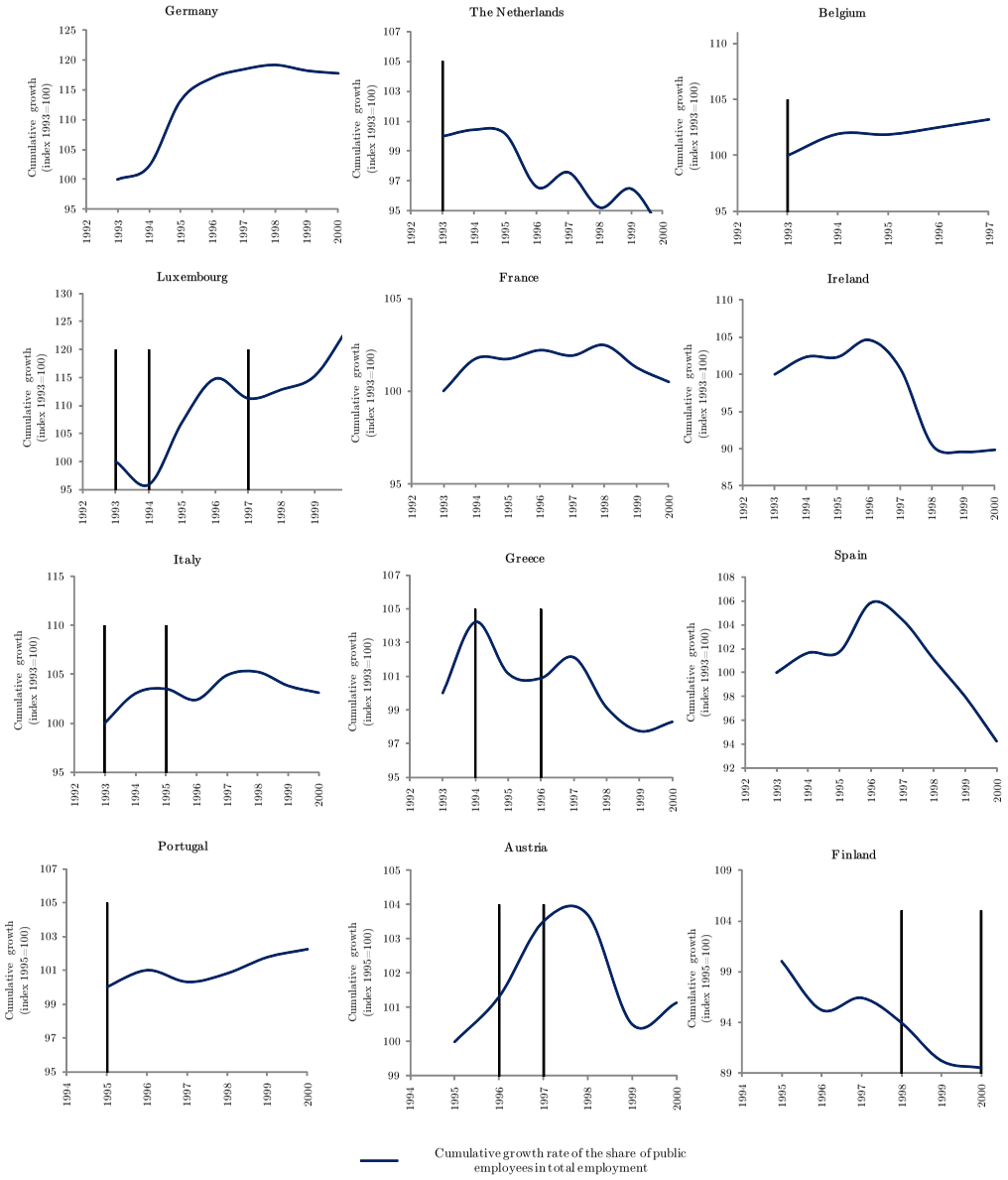
Figure 4.5 depicts the evolution of the number of civil servants as a share of total employees, obtained from Eurostat's NewCronos database.[18] This figure shows, in the first place, that the share of public employment increased over the course of the 1993-2000 period in the majority of countries in our sample. Regarding the relationship with fiscal adjustments (tagged with vertical lines), the figure suggests a relative stabilization (or even a decrease, in some cases) of the proportion of civil servants in total employment before most of the episodes, but it appears to be reversed shortly after. In fact, Table 4.5 shows that the share of public employees in total employment increased in the year immediately before several episodes of fiscal adjustment. Moreover, in the cases in which that proportion decreased before the episode, it was reversed in the following year. The only exception to this finding refers to the 1998 episode in Finland (one of the two only successful episodes in our sample), in which the share of civil servants continued to fall after the fiscal adjustment. Note, however, that the relative stabilization of public employment is also noticeable in the first part of the period in countries

[18] "Public administration and defence and compulsory social security", "Education" and "Health and social work" branches of NACE.

in which we did not identify episodes of fiscal adjustment. This evidence suggests a deceleration of public sector admissions vis-à-vis the exits during the period in which countries were engaged in the fulfilment of the Maastricht criteria, not necessarily related with the occurrence of fiscal adjustment.

Overall, the evidence just described is consistent with a feature documented in Alesina, Ardagna and Galasso (2008): in the period leading to the adoption of the euro, the countries that were then engaged in fulfilling the Maastricht criteria experienced a certain degree of wage moderation. Moreover, the evolution of the public sector employment suggests that such moderation was extended to the admission of new employees. The combination of these factors may explain the evolution of the public wage bill in the first half of the 1993-2000 period, depicted in Figure 4.4. However, this evidence does not appear to stem from developments referring specifically to episodes of fiscal adjustment as it is also noticeable in what concerns other country-year pairs and there are no obvious patterns regarding such relationship.

Figure 4.5 Fiscal adjustments and the evolution of public sector employment



Sources: Author's calculations based on Eurostat's NewCronos dataset. Data is from the Labour Force Survey, except in the case of Portugal, for which we use National Accounts data.
Note: The vertical lines identify the episodes of fiscal adjustment.

4.3 Wage gaps and fiscal adjustments

In Section 4.2 we point out that public and private sector employees differ in terms of their personal characteristics. In particular, we provide evidence that, on average, public employees are older, more experienced and more educated than their private sector counterparts, which can explain the existence of the raw wage differential depicted in Figure 4.1, as well as differences between both sectors' wage distributions. These raw differences may reflect the sorting of workers between sectors or distinct distributions of employee attributes and not necessarily a true sector wage differential. Hence, to assess whether individuals that otherwise share the same productivity-related characteristics are paid differently because they work in the public sector, those characteristics must be controlled for.

Previous works on this matter include Disney and Gosling (1998), focusing on data for the United Kingdom, Jurges (2002) and Melly (2002), that analise the German case, Lucifora and Meurs (2004), that use French, Italian and British data, Boyle, McElligott and O'Leary (2004), that focused on Ireland, Bargain and Melly (2008), that shed light on the public sector pay gap in France, and Campos and Pereira (2009), which is applied to Portugal. In general, these studies provide evidence of the existence of a positive public-private wage gap. This gap tends to be higher in the case of women and typically narrows as one moves up the earnings distributions.

The public wage gap varies considerably across countries, reflecting differences in the institutional settings that govern employment and wage determination both in the public and the private sector. One of the factors that is more commonly pointed out as a determinant of wage gaps is the bargaining power of unions representing large categories of civil servants (see Lucifora and Meurs (2004)). According to Alesina et al. (1998), when governments decide to cut down expenditure related to compensation of employees, labour costs decline and the bargaining power of unions tends to weaken (while increases in taxes on income, by reducing the after-tax income of union members, shift the aggregate labour supply and unions tend to demand higher real wages). Therefore, the period between 1993-1997 could have been a window of opportunity to eliminate the markup rate that the literature generally associates with public service. In order to assess whether this reading holds or not, in this section we analyse how the *actual* public-private wage gap changed along the period covered by the ECHP.

4.3.1 Empirical strategy

In order to identify the existence of significant public-private wage gaps, the most extensively used strategy consists in the regression of an earnings variable on the set of covariates usually included in Mincer wage equations and a dummy indicating public sector employment that is interpreted as a premium (or penalty, if negative). As Melly (2002) points out, the dummy-based approach has an important shortcoming: it assumes that the returns to individual attributes and job characteristics are equal in the public and the private sectors and limits the effect of the sector of employment to a single coefficient. As an alternative, several authors chose a decomposition approach that breaks-down the wage gap in two components. The first refers to differences in measurable individual attributes, while the second concerns the difference in the returns to the same attributes and is interpreted as the wage premium (or penalty, if negative). These differences may be evaluated at the means of the two sectors wages distributions (as in the seminal works of Blinder (1973) and Oaxaca (1973)) or at different quantiles (as in Machado and Mata (2001)). In spite of its drawbacks, our analysis, as the bulk of the literature on wage gaps, relies on the dummy approach.

To estimate the public-private wage gap, we use different econometric specifications. We begin by estimating the gap, for each country and each wave of the ECHP separately, based on basic Mincer equations, using cross-sectional methods. In particular, we perform this estimation of the public-private wage gap both at the mean and at different points of the wage distribution, using, respectively the Ordinary Least Squares (OLS) and Quantile Regression (QR) methodologies. Results based on these approaches provide insight on the contribution of measurable endowments to explain the wage gap, but do not take into account the impact of unobservable individual characteristics and may thus be hampered by endogeneity. In order to avoid such problem and assess the role of unobservable individual heterogeneity in explaining the public-private wage differential, we take advantage of the longitudinal structure of the data. More specifically, we resort to a standard fixed effects model to obtain evidence regarding developments at the mean and also to the novel QR method for panel data (presented in Canay (2010)) that allows the estimation of the public-private wage gap at different points of the distribution. In what follows, we briefly describe each of the cross-sectional and longitudinal methods. In any case, it should be borne in mind that none of these approaches is absolutely perfect and that we are using self-reported, non-experimental data. Therefore, results based on these methods should be handled with caution, particularly as regards causal

interpretations.

4.3.1.1 Cross-sectional approach: the public-private wage gap at the mean and along the distribution

The simplest way to estimate the public-private wage gap consists on the regression for each country, for men and women separately, of basic Mincer equations using OLS, pooling data for public and private sector employees:

$$ln(wage_i) = X_i'\beta + \delta P_i + \varepsilon_i, \tag{4.1}$$

where the dependent variable, $ln(wage_i)$, is the logarithm of net monthly wage, X_i is a vector representing the set of individual characteristics described in Table 4.6[19], P_i represents a binary variable that equals 1 if individual i is a public sector employee and 0 otherwise and ε_i is a random error term. The parameter δ represents the public-private wage gap. If positive, δ is interpreted as a public sector wage premium and, if negative, it represents a penalty. As Bargain and Melly (2008), at this stage we do not take into account the fact that our dataset is longitudinal and repeat the estimation separately for each of the eight waves of the ECHP. This exercise will give insight on how the gap varies along the entire time-span.

Results based on OLS estimates provide an incomplete view on the public-private wage gap. In fact, such regressions are estimated at the mean and, in Subsection 4.2, we show that the wage distributions corresponding to the public and the private sector are considerably different, in particular, the former being more compressed. Therefore, it is extremely relevant to assess how the gap varies along the distribution. In order to do so, we follow the QR methodology introduced by Koenker and Bassett (1978). In addition to providing insight on how the marginal effect of the sector of employment on

[19]It should be mentioned that, although differences in individual characteristics are relevant in explaining pay differentials between civil servants and their private sector counterparts, there are other factors that may also play a role. In particular, public employees commonly carry-out tasks that are exclusively performed in the public sector and in many cases the goods and services produced do not find substitutes in the private sector. This results in considerably distinct occupational structures in the two sectors. To control for these differences, several authors include indicator variables for occupational categories in the earnings equations. We chose not to do it because the respective coefficients would partially capture the effect of the sector of employment on wages and we want such effect to be uniquely captured by a public sector dummy.

Table 4.6 Definition of the covariates

Variable	Description	Type
male (*)	=1 if the individual is a male	Binary
age	age, measured in years	Continuous
age^2	age squared	Continuous
married	= 1 if the individual is married	Binary
educ_third	= 1 if the individual reports terciary educational level	Binary
educ_sec	= 1 if the individual reports higher secondary educational level	Binary
educ_less_sec	= 1 if the individual reports less than higher secondary educational level (omitted)	Binary
tenure	number of years in the current job	Continuous

Note:**(*)** The dummy that equals one for male individuals is excluded from the set of covariates when the estimations are conducted separately for male and female employees.

the logarithm of wages differs at different points of the distributions, models for conditional quantiles are more efficient than OLS estimators when the assumption of normality of the error term fails (see Koenker and Bassett (1978)).

In particular, to estimate the public-private wage gap across the distribution, we assume that

$$ln(wage_i) = X_i'\beta_\theta + \delta_\theta P_i + \varepsilon_{\theta_i}$$

and estimate

$$Quant_\theta[ln(wage_i)|X_i, P_i] = X_i'\beta_\theta + \delta_\theta P_i \ , \tag{4.2}$$

where $Quant_\theta[ln(wage_i)|X_i, P_i]$ is the θ^{th} quantile of the distribution of the logarithm of wages, conditional on the set of covariates X_i described in Table 4.6 and P_i. δ_θ represents the public-private wage gap at the θ^{th} quantile, with $\theta = \{0.10, 0.25, 0.50, 0.75, 0.90\}$. Note that, while in (4.1) δ represented the mean wage gap, in this case we estimate θ different gaps, at different points of the conditional distribution of wages.

4.3.1.2 Longitudinal approach: the public-private wage gap and the role of unobservable characteristics

The methods presented so far are hampered by an important drawback: they do not take into account unobserved (and thus unmeasurable) individual heterogeneity. In fact, there are features that can affect differently individuals in the two sectors but cannot be assessed by simple raw wage comparison and remain outside the scope of conditional on observables estimations. This includes not only unobserved personal skills that may affect wages, but also individual preferences determining the sorting of employees between the sectors (for instance, the utility obtained from working in the public sector *per se* or from benefiting from a stable employment relationship). These aspects determine unmeasured individual heterogeneity and may generate self-selection into one of the sectors, in which case endogeneity-related problems arise. Therefore, in addition to provide a more accurate assessment of the wage gap, controlling for individual heterogeneity is also useful to obtain insight on the relative quality of the human resources in each sector.

Typically, the literature addresses the non-exogenous nature of sector selection using either instrumental variables methodologies or two-stage models based on the joint specification of selection and wage regressions. As Bargain and Melly (2008) and Bargain and Kwenda (2009), we take advantage of the panel structure of our data to control for selection. In particular, we assume that the individual-specific features are constant over time and account for individual heterogeneity using the fixed effects methodology, that we briefly describe.[20]

For each individual i and in each period t, the observed $ln(wage_{i,t})$ is $ln(wage^1_{i,t})$ or $ln(wage^0_{i,t})$ depending on whether the individual works in the public or in the private sector (i.e. $P_{i,t} = 1$ or $P_{i,t} = 0$, respectively). It is assumed that

$$E[ln(wage^0_{i,t})|A_i, X_{i,t}, t] = \alpha + \gamma_t + A'_i\lambda + X'_{i,t}\beta \ , \tag{4.3}$$

where $X_{i,t}$ is the set of covariates in Table 4.6 and A_i is a vector of unobserved and time-invariant attributes.

Regarding the effect of public sector employment in the logarithm of

[20]The following description of the fixed effects methodology draws heavily on Angrist and Pischke (2009).

wages, δ, it is assumed to be additive and constant along time:

$$E[ln(wage^1_{i,t})|A_i, X_{i,t}, t] = E[ln(wage^0_{i,t})|A_i, X_{i,t}, t] + \delta. \tag{4.4}$$

Equations (4.3) and (4.4) thus yield

$$E[ln(wage_{i,t})|A_i, X_{i,t}, t, P_{i,t}] = \alpha + \gamma_t + A_i'\lambda + X_{i,t}'\beta + \delta P_{i,t} \ , \tag{4.5}$$

implying that

$$\begin{aligned} ln(wage_{i,t}) = \gamma_t + \alpha_i + X_{i,t}'\beta + \delta P_{i,t} + v_{i,t} \ , \\ i = 1, ...N, t = 1, ..., T \end{aligned} \tag{4.6}$$

where $v_{i,t} \equiv ln(wage^0_{i,t}) - E[ln(wage^0_{i,t})|A_i, X_{i,t}, t]$ is an i.i.d. normally distributed error term and $\hat{\delta}$ is the constant public-private wage gap. The parameters γ_t and α_i account, respectively, for time effects and unobserved individual heterogeneity. Note that, while the time fixed effects are controlled by including dummies for the first seven waves of the panel, to control for the individual heterogeneity we time-demean the data (using the *within* transformation).

If the heterogeneity determined by worker-specific unobserved characteristics, α_i, is time-invariant, the fixed effects estimator (4.6) is consistent even in a context of correlation between those characteristics and both wages and sector selection. We are confident that the fixed effects approach provides a fairly good control, although we cannot rule out that this does not cover the entire range of relevant unobservable factors. Note, additionally, that since the application of this methodology is based on an estimation on pooled data for employees from the public and private sectors, it has also implicit the assumption that the returns to the unobservable factors are equal in both sectors (see Boyle et al. (2004)). Moreover, the wage gap estimated using this approach, $\widehat{\delta}$, is determined by the individuals that worked in both the public and the private sectors along the period covered in the panel, but, as stated in Bargain and Kwenda (2009), non-random movements between sectors (for instance, as a response to *changes* in unobservable factors) are not controlled for.

We are also interested in assessing how the gap varies across the wage distribution while still accounting for the unobserved individual-specific heterogeneity. However, the estimation of a panel data fixed effects model within a QR framework is not straightforward. In fact, a possible approach would rely on the treatment of each individual effect, α_i, as a parameter to be estimated with the remaining covariates using the standard QR method. However, this is not feasible in short micro-panels such as the one we are using, given that, when the number of coefficients goes to infinity but the number of time periods is relatively small, the incidental parameters problem harms the consistency of the estimators (Kato and Galvão (2010)). Moreover, the differencing techniques commonly used to cope with time invariant effects - including the time-demeaning *within* transformation - are not applicable: Quantiles, as opposed to expectations, do not commute with linear transformations, thus the quantiles of a difference do not necessarily equal a difference in the quantiles (Ponomareva (2010)).

Recent - and pretty much ongoing - research has attempted to overcome these problems using different strategies. For instance, based on the assumption that the α_i's have a pure location shift effect on the conditional distribution of the dependent variable (in the sense that they do not change along the distribution), Koenker (2004) suggests an approach based on the penalized estimation of the individual parameters.[21] A similar approach is suggested in Galvão (2008), in the context of dynamic panel data models, but in this case the α_i's are allowed to vary with the quantiles. Kato and Galvão (2010), on its turn, studies the asymptotic properties of an estimator derived from the smoothing of the standard QR objective-function and proposes a bias-correction method.

In our application we use an intuitive and easy to implement method that is proposed in Canay (2010) and that we briefly describe.

Consider the generic model

$$\begin{aligned} Quant_\theta(y_{i,t}|X_{i,t}) &= \alpha_i + X'_{i,t}\beta_\theta \ , \\ \text{with } y_{i,t} &= \alpha_i + X'_{i,t}\beta_\theta + v_{\theta_{i,t}} \end{aligned} \tag{4.7.i}$$

[21] In broad terms, Koenker (2004)'s idea is to apply a penalization parameter that "shrinks" the individual-specific parameters towards a common value, under the Gaussian Random Effects paradigm.

This model differs from the standard QR specification due to the presence of the unobserved individual-specific heterogeneity, α_i. As in Koenker (2004), Canay (2010)'s approach is based on the assumption that the α_i's operate as simple location shifters on the conditional distribution of $y_{i,t}$.[22] Exploiting this ideia, Canay (2010) suggests the following two-step procedure:

Step 1 Using a $\sqrt{NT}$-consistent mean estimator for β, estimate

$$y_{i,t} = \alpha_i + X'_{i,t}\beta + v_{i,t}, \tag{4.7.ii}$$

Given that α_i is time-invariant, the OLS estimator in first-differences is a suitable method to use in this step. The results of this estimation, $\widehat{\beta}$, are then used to estimate the individual heterogeneity parameters,

$$\widehat{\alpha_i} = T^{-1}\sum_{t=1}^{T}[y_{i,t} - x_{i,t}\widehat{\beta}] \tag{4.7.iii}$$

Step 2 Using the standard QR methodology presented in Koenker and Bassett (1978), estimate

$$Quant_\theta(\widehat{y_{i,t}}|X_{i,t}) = X'_{i,t}\beta_\theta, \tag{4.7.iv}$$

with $\widehat{y_{i,t}} = y_{i,t} - \widehat{\alpha_i}$.

According to Canay (2010), this approach provides a $\sqrt{T}$-consistent and asymptotically normal estimator for β_θ, as long as:

1. $(y^*_{i,t}, X_{i,t}, \alpha_i) \sim i.i.d.$ and $E(\alpha_i) = 0$, where
   $y^*_{i,t} \equiv \widehat{y_{i,t}} - \widehat{r_i}$, with
   $\widehat{r_i} \equiv (\alpha_i - \widehat{\alpha_i})$.
2. For all $\theta \in \Theta$, $\beta_\theta \in \mathbf{B}$, where the parametric space $\mathbf{B}$ is compact and convex and Θ is a closed subinterval of $[0, 1]$.

[22] Note that it is theoretically possible to estimate a distributional shift for each individual, α_{θ_i}, but, taking into account the short length of our panel, it would be unrealistic. Although the assumption that α_i does not vary across the conditional distribution limits the kind of unobserved effects captured by the model by restricting them to affect all quantiles in the same way, note that the remaining covariates are allowed to change with the quantile of interest.

3. Y^* has bounded conditional on X density and $\prod(\beta, \theta, r) \equiv E[g_\theta(W, \beta, r)]$ has a Jacobian matrix such that

   $J_1(\beta, \theta, r) = \frac{\partial \prod(\beta,\theta,r)}{\partial \beta}$ is continuous and fully-ranked

   $J_2(\beta, \theta, r) = \frac{\partial \prod(\beta,\theta,r)}{\partial r}$ is uniformly continuous

   where

   $W = (Y^*, X)$ and $g_\theta(W, \beta, r) = \varphi_\theta(Y^* - X\beta + r)X$, with

   $\varphi_\theta(u) = \theta - 1(u < 0)$.

Under these assumptions, Monte-Carlo simulations for $T = 10$ and $N = 100$ provided in Canay (2010) show a bias slightly different from zero. For the sake of applicability and computational simplicity, a bias of this magnitude seems to be acceptable. Therefore, we used this method to assess how does the public-private wage gap change across the wage distribution.[23]

In particular, we estimate for each country

$$Quant_\theta[ln\widehat{(wage}_{i,t})|X_{i,t}, P_{i,t}] = \gamma_{\theta_t} + X'_{i,t}\beta_\theta + \delta_\theta P_{i,t} \ , \tag{4.8}$$

assuming $ln\widehat{(wage}_{i,t}) = \gamma_{\theta_t} + X'_{i,t}\beta_\theta + \delta_\theta P_{i,t} + v_{\theta_{i,t}}$, where

$ln\widehat{(wage}_{i,t}) = ln(wage_{i,t}) - \widehat{\alpha}_i$.

In (4.8) γ_{θ_t} accounts for time-specific fixed effects (implemented as dummies for the seven first waves of the panel), $\widehat{\alpha}_i$ represents the estimated individual heterogeneity and the remaining parameters and variables assume the same meaning as in equation (4.2). The model is estimated for each quantile θ of the wage distribution, with $\theta = \{0.10, 0.25, 0.50, 0.75, 0.90\}$.

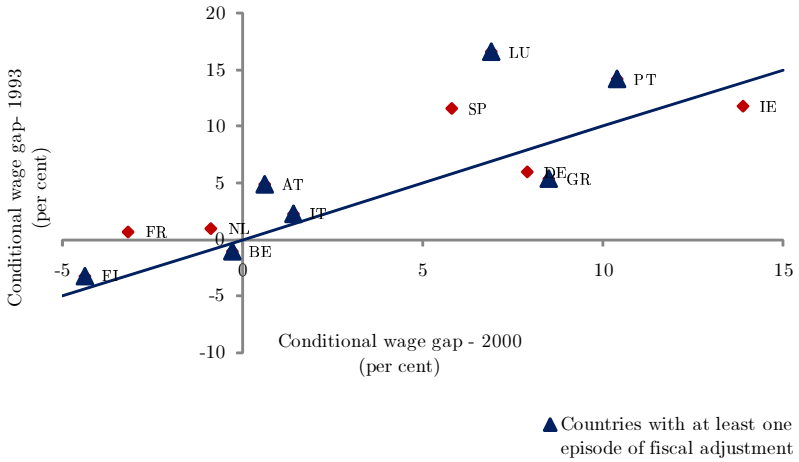
[23] To our knowledge, the only studies using QR on longitudinal data to address the issue of wage gaps are Bargain and Kwenda (2009) and Bargain and Melly (2008). The latter relies solely in Koenker (2004)'s approach, while the former also used Canay (2010)'s methodology (with similar results).

4.3.2 Results

4.3.2.1 Cross-sectional approach: the public-private wage gap at the mean and along the distribution

The results of the estimation of the public-private wage gap based on (4.1), for each country and each wave, pooling data for men and women, are presented in Table B.1, in Appendix B.[24] Figure 4.6 summarizes the estimates obtained for the first and the last waves of the panel.

Figure 4.6 Public vs private sector: Conditional mean wage differential



Sources: Author's calculations based on ECHP microdata.
Note: The figure presents the results of the OLS estimation of specification (4.1) on data from the first and the last waves of the panel. The regressions were undertaken pooling data for male and female employees, thus the set of covariates includes a dummy that equals 1 if the individual is a men.

[24]The full set of results of OLS estimations based on (4.1) shows that, in the majority of cases, the coefficients have the expected sign and are statistically significant. In particular, our results for every country point out that, both for men and women, earnings are positively related to tenure, age (although there is evidence of non-linearity), and third-level education. Regarding the coefficient of the dummy identifying married individuals, our results point to differences between men and women: while in the case of men being married tends to yield a positive (and significant) effect on wages, for women that effect is negative in several of the countries in our sub-sample and along the 1993-2000 period.

Figure 4.6 shows that the evolution of the conditional gap is similar to the trend obtained for the raw differential (in Figure 4.1), but its level is - in some cases considerably - lower. This suggests that, although the better human capital endowments of civil servants explain part of the wage gap between them and their private sector counterparts, a non-negligible part remains unexplained. In most countries in our sample, the unexplained part is favourable to public employees and represents a wage premium, but in Belgium, the Netherlands, France and Finland, there is evidence of penalties associated with public employment.

Results obtained separately for men and women show that the estimated public-private wage gap is quite distinct across genders. Indeed, for men, Table 4.7 shows that, although in most countries in our sample there is evidence of a statistically significant and positive public-private wage gap, there are others whose results point to the existence of penalties. Considering the time-span under analysis, the highest average gaps were obtained for Luxembourg (12.9 per cent), Ireland (7.4 per cent) and Greece (7.1 per cent). On the contrary, the smaller (and negative) gaps correspond to Belgium and Finland (respectively, -3.8 and -3.6 per cent). For women, with few exceptions, the gaps are above those obtained for men.[25] In particular, we find evidence of positive public-private wage gaps in the majority of countries and the highest were identified in Ireland (16.7 per cent), Portugal (16.3 per cent) and Greece (14.1 per cent). Finland is the only country for which the public sector coefficient is negative across the entire period.

The estimates in Table 4.7 are broadly in line with previous literature on public-private wage gaps. For instance, using data from the German Socio-Economic Panel for 2000, Melly (2002) presents figures that in the case of women are very similar to those we estimate for the same year. However, while in the case of men we estimate positive wage gaps, Melly (2002) provides evidence of penalties (in addition to differences in the sources of data, this discrepancy may be explained by the fact that, as opposed to Melly (2002), we did not include occupational controls in the regressions). Lucifora and Meurs (2004), based on 1998 data from the Bank of Italy Survey of Household Income, provides evidence of positive gaps that are slightly larger than those that we obtain for Italy using the 1998 wave of ECHP. Bargain and Melly (2008) also obtained higher values for the public-private wage gap in France, using data from the French Labour Force Survey for the 1991-2002 period. Campos and Pereira (2009) used the Portuguese Public

[25]Dolado and Llorens (2004) associates the fact that women benefit from higher public-private wage gaps with collective bargain and affirmative action in the public sector.

Administration Census and matched employer-employee data from "*Quadros de Pessoal*" to estimate the public-private wage gap in Portugal in 1996 and 1999 and obtained figures very close to ours. Finally, Boyle et al. (2004) estimated the wage gap in Ireland using the ECHP and focusing on the same period and, although the covariates in the regressions and the sample selection criteria are slightly different, obtained essentially the same results.

Table 4.7 also shows that the average public-private wage gap decreased for men and women along the time-span covered in our analysis, although there are few exceptions. Moreover, it shows that this downward trend is particularly obvious in the first half of the period, whereas after 1997 the average gap stabilized.

Table 4.7 Public-private wage gap at the mean
(per cent)

	1993		1994		1995		1996		1997		1998		1999		2000		Average	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Germany	4.3*	10.7*	4.5*	11*	6*	11.5*	5.9*	9.9*	6.2*	7.2*	6*	8.7*	8.8*	9.2*	8.1*	9.2*	6.23	9.68
Netherlands	-1	5.4*	0.3	5.2*	0	4*	-0.1	4.5*	-0.8	7.7*	-1.2	4.9*	-1.6	3.1	-3.1*	4.6*	-0.94	4.93
Belgium	-4.8	4.7	-3.9	2.6	-4.4	5.4*	-3	2.5	-3	3.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-3.82	2.33
Luxembourg	16.2*	17.9*	17.9*	10*	16.8*	14.1*	19.2*	19.9*	9.3*	21.4*	9.1*	13.8*	6.1	6.8	8.7*	6.7	12.91	13.83
France	0	1.3	2.2	5.7*	1.3	6.7*	0.6	5.6*	-2.7	1.4	-5.8*	0.7	-6.2*	0.5	-6.5*	0	-2.14	2.74
Ireland	9.8*	17.8*	8.9*	19.5*	8.9*	22.2*	5.5*	19.4*	5.2*	15.1*	2.9	11*	6.8*	10.7*	11*	18*	7.38	16.71
Italy	0.5	6.4*	-0.3	6.5*	-1.3	3.7*	0.5	7.9*	-0.3	6.6*	-0.2	6.5*	-0.4	8.7*	-1.7	7*	-0.40	6.66
Greece	3.5*	9.8*	4.2*	10.2*	5.8*	10.8*	10.8*	18.2*	8.4*	17.2*	9.8*	17.5*	9.1*	15*	5.1*	13.9*	7.09	14.08
Spain	8.5*	17.8*	7.6*	19.2*	6.4*	16.8*	4.2*	11.6*	2.8	12.3*	4.5*	14.1*	-0.3	16.2*	0.7	13.7*	4.30	15.21
Portugal	8.7*	20.2*	9.7*	19.7*	8.1*	18.1*	7.1*	18.6*	4.1*	14.2*	5.6*	14.6*	6.2*	11.4*	6*	13.7*	6.94	16.31
Austria	n.a.	n.a.	-0.4	12.3*	0	6.9*	-2.4	7*	-1.6	8.4*	-2.4	7*	-2.6	8.8*	-2.4	4.8*	-1.69	7.89
Finland	n.a.	n.a.	n.a.	n.a.	-3.5*	-2.9*	-2.4	-2	-4.5*	-1.7	-3.7*	-2.5*	-3.8*	-3*	-3.9*	-4.7*	-3.63	-2.80
Average	4.57	11.20	4.61	11.08	3.68	9.78	3.83	10.26	1.93	9.43	2.24	8.03	2.01	7.28	2.00	7.24	2.69	8.96

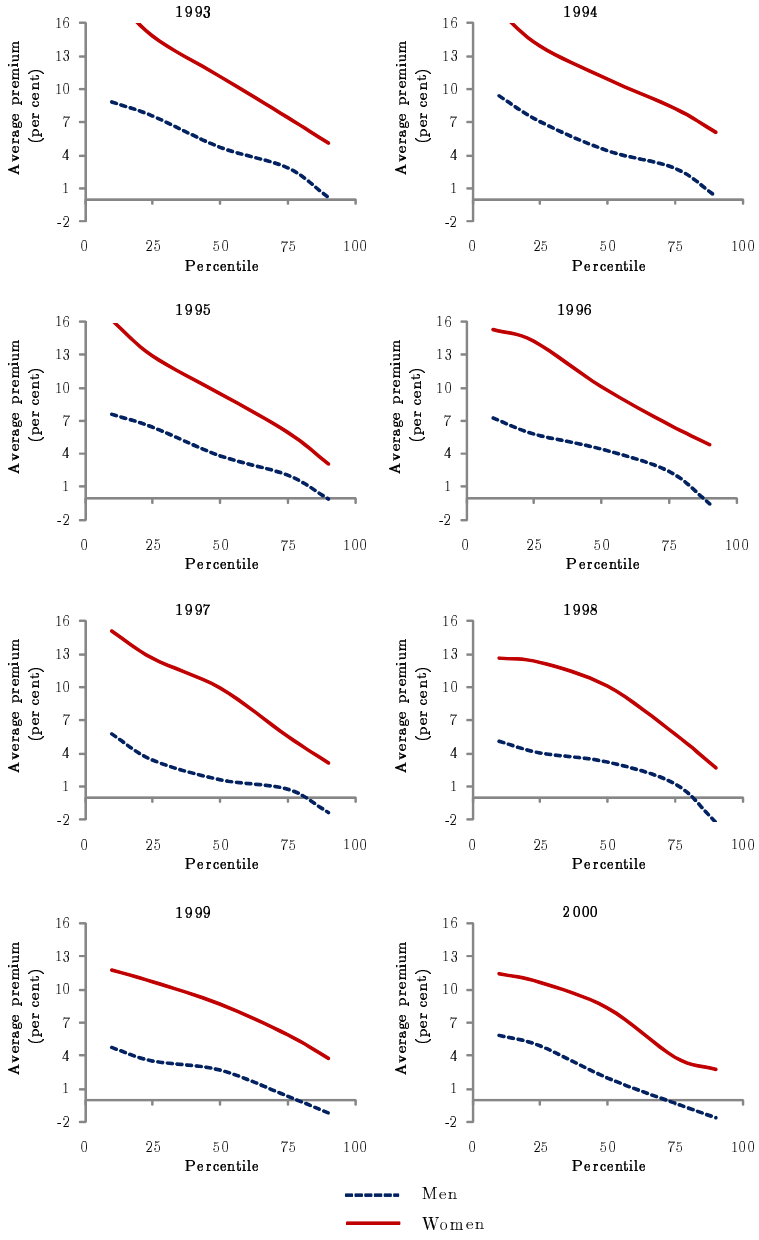
Sources: Author's calculations based on ECHP microdata.
Notes: The table presents, for each country-year pair, the estimated coefficient for the public sector dummy in equation (4.1) ($\widehat{\delta}$), multiplied by 100 and obtained using OLS and a robust variance-covariance matrix. Coefficients tagged with "*" are significant, at least, at the 10 per cent level.

Regarding the estimates of the wage gap across the distribution, based on the estimation of (4.2) for each country and repeated for each of the eight years covered by the ECHP, they are presented in Table B.2 (Appendix B) and Figure 4.7. Both in the case of men and women, the gap decreases with the wage level and, above the 75^{th} percentile, there is evidence of penalties associated with public employment (specially in what refers to male employees, although there are few, and generally not significant, cases of penalties for women). Therefore, results in Figure 4.7 suggest that the public sector compresses the wage dispersion, reducing within-group pay inequality. Note that, in general, our estimates for the wage gap at different points of the distribution are very much in line with previous studies. Nonetheless, we find some discrepancies regarding the magnitude of the gap (for instance, when comparing our results for Germany with those in Melly (2002)) or their evolution across quantiles (for example, Campos and Pereira (2009) obtained for Portugal a more obvious decrease along the distribution), that are probably due to differences in the sources of data. Indeed, a comparison of our estimates for Ireland with those in Boyle et al. (2004), that uses the same dataset, shows essentially the same results.

Figure 4.7 also confirms that the average public-private wage gap is consistently higher for women, but this feature, that is common across countries, is particulary noticeable below the median of the wage distributions. The few exceptions are generally restricted to the upper quantiles. It is also worth emphasizing that, while at the lower quantiles the average gap computed for female employees exceeds that obtained for men by around 10 p.p., such gap narrows as one moves to the upper part of the distribution. This suggests that, on average, female civil servants are relatively better-off than men at the lower quantiles of the distribution, while developments at the top suggest a "glass ceiling effect" in the public sector. Dolado and Llorens (2004), that focuses on the gender wage gap in Spain, associates the existence of "glass ceilings", particularly for highly-educated women, with the fact that, vis-à-vis male employees, women tend to feature lower job mobility, benefit from less frequent opportunities of promotion and employers are less likely to invest in their training.

Figure 4.8, besides confirming the evidence just described, also clarifies how the gap estimated at different points of the wage distribution, separately for men and women, evolved along the 1993-2000 period. The most obvious conclusion arising from the analysis of this figure is the considerably higher variability of the public-private wage gap obtained for women, with the estimated values ranging between around 19 per cent, at the bottom of the

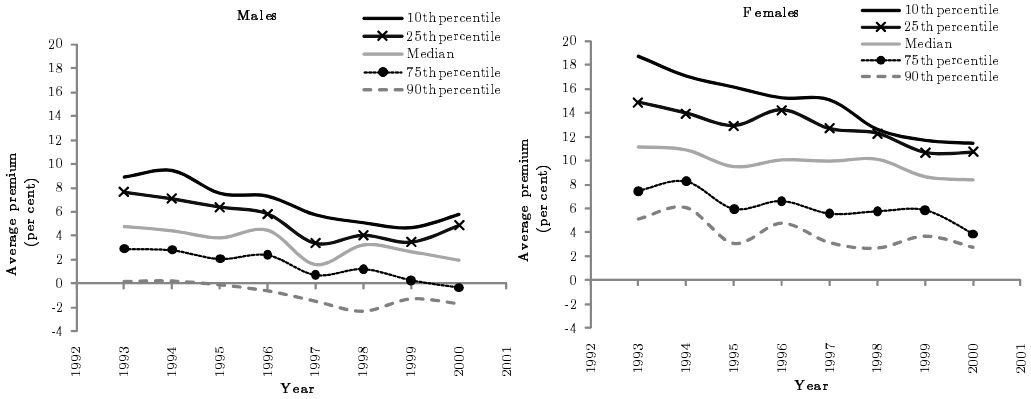
Figure 4.7 Public-private wage gap across the distribution: men *vs* women



Sources: Author's calculations based on ECHP microdata.
Notes: The figure presents, for each year, the cross-country average wage gap computed using the coefficients obtained from the QR of equation (4.2) applied to each country, separately for men and women.

distribution, and 3 per cent, at the 90th quantile. In the case of men, the differences across the distribution are not as pronounced. The figure also shows the average wage gap decreased between 1993 and 2000 for both genders, but specially in the case of men.

Figure 4.8 Public-private wage gap across the distribution: evolution over time



Sources: Author's calculations based on ECHP microdata.
Notes: The figure presents the cross-country average wage gap computed using the coefficients obtained from the QR of equation (4.2) applied to each country and each year covered by the ECHP.

Fiscal adjustments and the public-private wage gap

Table 4.8 shows the wage gap estimated for country-year pairs corresponding to episodes of fiscal adjustment (as well as the estimates corresponding to the previous and the following year). Regarding the estimates obtained at the mean of the wage distributions, Table 4.8 shows that in several adjustment episodes the public-private wage gap is estimated to stand below the same year's average, but that is not always the case. We also checked if the downward trend depicted in Table 4.7 for the period from 1993 to 1997 stems from a decrease in the gap estimated for countries in which adjustments were in progress and concluded that it does. In fact, if these episodes were excluded from the sample, the average gap would have remained more stable over the course of the period. Moreover, in most episodes there is evidence that the gap decreased in the year before the adjustment, while developments regarding the following year vary considerably. In fact, whereas in some episodes the gap seems to have continued to drop (including in Finland in 1998, one of

Table 4.8 Fiscal adjustments and the public-private wage gap

	Public-private wage gap (per cent)								
	Q25			Mean			Q75		
Episode	t-1	t	t+1	t-1	t	t+1	t-1	t	t+1
Belgium; 1993	-	2.7	3.6	-	-1.0	-1.5	-	-3.6	-3.8
The Netherlands; 1993	-	4.6	3.6	-	1.0	1.8	-	-1.3	0.8
Luxembourg; 1993	-	23.1	21.8	-	16.6	14.7	-	8.2	8.9
Italy; 1993	-	4.9	4.5	-	2.3	2.1	-	1.5	-0.4
Luxembourg; 1994	23.1	21.8	25.7	16.6	14.7	16.3	8.2	8.9	10.2
Greece; 1994	9.1	11.7	11.6	5.4	6.0	7.3	4.3	3.7	5.7
Finland; 1994	-	-	-1.6	-	-	-3.2	-	-	-5.1
Italy; 1995	4.5	3.7	4.8	2.1	0.4	3.0	-0.4	-0.4	0.7
Portugal; 1995	17.0	11.7	9.2	14.6	13.0	12.7	15.8	12.1	14.6
Greece; 1996	11.6	19.5	18.3	7.3	13.3	11.5	5.7	12.1	10.3
Austria; 1996	3.4	2.7	2.1	3.2	2.4	2.6	2.8	4.6	3.9
Luxembourg; 1997	26.7	18.2	15.0	19.4	14.5	10.2	12.1	11.4	8.7
Austria; 1997	2.7	2.1	0.8	2.4	2.6	1.9	4.6	3.9	3.3
Finland; 1998	-0.4	-0.5	-0.4	-2.1	-3.4	-3.6	-4.7	-7.0	-7.7
Finland; 2000	-0.4	0.2	-	-3.6	-4.4	-	-7.7	-8.1	-

Sources: Author's calculations based on ECHP microdata.

the two only successful episodes in our sample), in others the public-private wage gap appears to have increased immediately after the adjustment.

Regarding the developments at different parts of the distribution, Table 4.8 shows that the public-private wage gap at both the 25^{th} and 75^{th} percentiles decreased before most of the episodes. In the majority of cases, the gaps at the lower part of the distribution seem to have continued to decrease after the adjustment. Above the median, such evidence is not as clear.

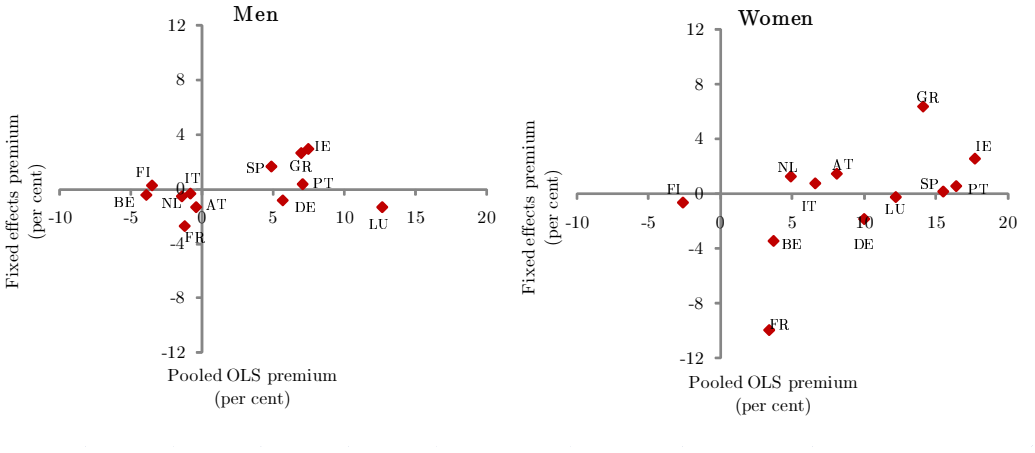
4.3.2.2 Longitudinal approach I: the public-private wage gap and the role of unobservable characteristics at the mean of the distribution

A first assessment of the role of unobservable attributes in explaining pay differences between public and private sector employees can be drawn from the analysis of Figure 4.9. This figure provides a comparison between the coefficients estimated using model (4.6) (controlling for endogenous sector choice) and those obtained through a pooled-OLS approach (with time-dummies),

in which, since individual-specific factors are not taken into account, sector choice is assumed to be exogenous:

$$ln(wage_{i,t}) = \gamma_t + X'_{i,t}\beta + \delta P_{i,t} + \varepsilon_{i,t} \tag{4.9}$$

Figure 4.9 Public-private wage gap at the mean: the role of selection



Sources: Author's calculations based on ECHP microdata.
Notes: The figure presents the public-private wage gap computed using the coefficients obtained using models (4.6) and (4.9), assuming, respectively, exogenous and endogenous sector choice.

Figure 4.9 shows that the estimates for the public-private wage gap based on the fixed effects approach are, in general, lower than those obtained using model (4.9). According to Bargain and Melly (2008), this fact suggests a positive selection effect determining that better-endowed individuals choose to work in the public rather than in the private sector. The only exceptions refer to cases in which pooled-OLS estimates yield penalties associated with public employment, that are attenuated when unobserved and time-invariant factors are taken into account. However, while the OLS-based estimates are generally significantly different from zero, the fixed effects estimator typically yields a non-significant mean gap. This means that in the majority of countries, once both observable and time-invariant unobservable individual heterogeneity are controlled for, there is no evidence of a positive wage gap associated with public sector employment (the only countries for which our findings suggest that the average gap is not null are Ireland, in the case of men and Greece, for both males and females). This evidence is consistent

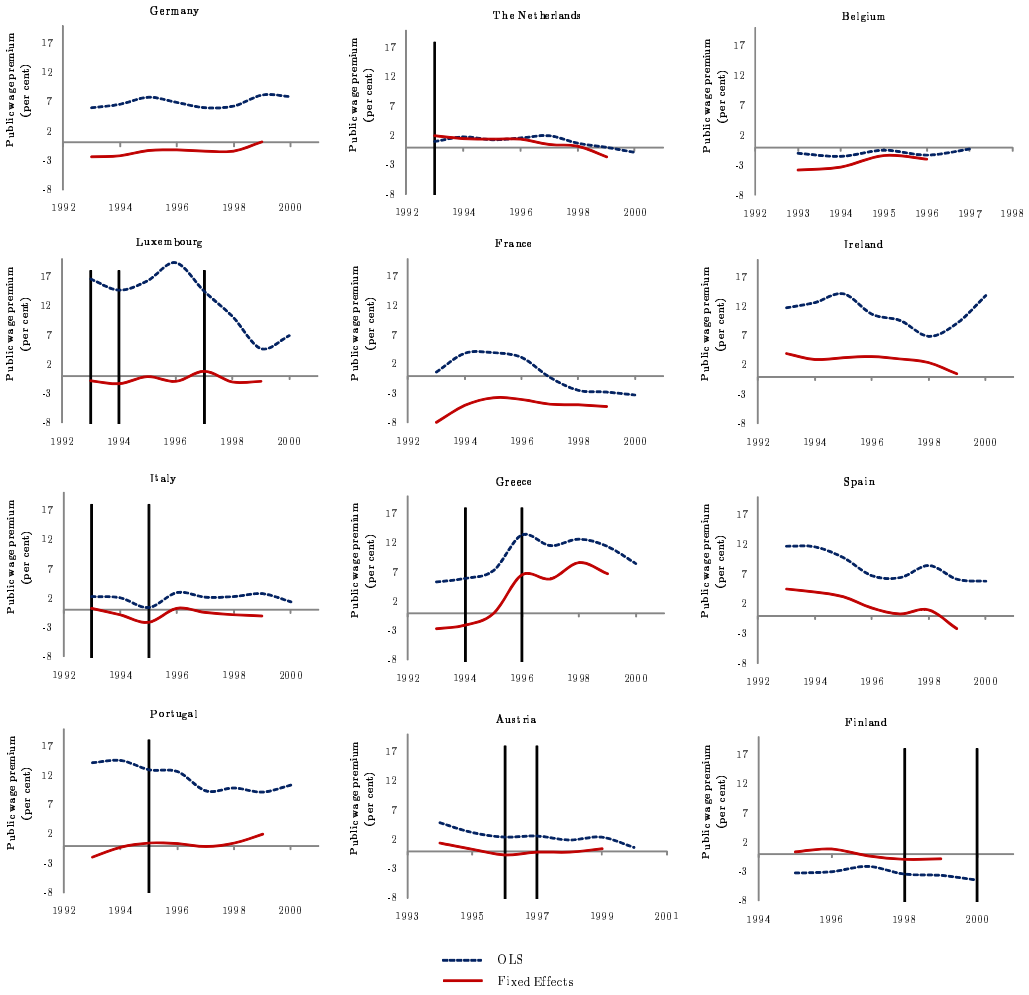
with results obtained for Ireland by Boyle et al. (2004) and for France by Bargain and Melly (2008), using the same methodology but different data.

Next, we follow Bargain and Melly (2008) and let the wage gap vary over time by including in model (4.6) terms expressing the interaction between the public sector dummy and time dummies (omitting the one referring to the last year covered in the panel). The time-varying gap can be compared to those depicted in Figure 4.6 and the differential between them can be attributed to the fact that we are now controlling for unobserved individual heterogeneity. Such a comparison is available in Figure 4.10.

Figure 4.10 confirms, in the first place, that controlling for unobserved individual heterogeneity generally brings down the public-private wage gap and in countries for which we estimate penalties they are generally attenuated. Along the time-span under scrutiny, the estimates based on the fixed effects methodology remained relatively stable and feature less variability than those estimated by OLS. Nevertheless, it is worth highlighting the sharp increase observed in Greece, as well as the considerable decline depicted in the chart referring to Spain.

The figure also shows that, in most countries, the gap between OLS and fixed effects estimates of the wage gap depicted in Table 4.9 has narrowed over the course of the period, specially after 1997. Given that the fixed effects estimates seem to have evolved between tighter bands, this narrowing, that is particularly obvious in the cases of Luxembourg and France, is mostly explained by the decline observed in what refers to the OLS-based gap. This suggests that in these countries the role played by unobserved and time-invariant individual heterogeneity has become less relevant in explaining wage differences between public and private sector employees.

Figure 4.10 Public-private wage gap at the mean along time: the role of selection



Sources: Author's calculations based on ECHP microdata.
Notes: The figure presents the public-private wage gap computed using the coefficients obtained using the fixed effects specification (4.6) including interaction terms between the public sector dummy and year dummies and the repeated OLS estimator based on (4.1). In both cases, the estimations were undertaken pooling data for both genders, thus the set of covariates includes a dummy that equals 1 for men. The vertical lines pinpoint episodes of fiscal adjustment.

Robustness checks

The differential between results obtained by fixed effects and OLS suggests that the latter may be hampered by an upward bias stemming from the omission of relevant determinants of wages (and sector of employment). Note, however, that fixed effects estimates are particularly prone to attenuation bias arising from measurement error. In fact, the estimate for the public sector dummy parameter is identified based on individuals that move from the public to the private sector (and *vice-versa*) along the period covered by the panel (overall, we identified 2,888 changes from the public to the private sector and 2,554 switches in the opposite direction). If this variable is miscoded or misreported, the observed sector switches are, in fact, erroneous. Against such a background, the estimates tend to be hampered by a measurement error that changes from wave to wave and that tends to bias the coefficient towards zero, possibly offsetting the bias generated by the omitted factors (Angrist and Pischke (2009)). In order to assess to what extent is this issue actually affecting our results, we perform a series of robustness checks, summarized in Table 4.9.

Table 4.9 shows, in the first place, that the fixed effects and first-differences estimators yield very similar figures for the public-private wage gap and that restricting the sample to movements in only one direction does not result in dramatic changes in the coefficients. Notwithstanding, in countries such as Germany, the low fixed effects estimate seems to be mostly driven by transitions from the public to the private sector, while in others (such as Portugal) that effect appears to primarily stem from sector switches in the opposite direction. Also noteworthy is the fact that corrections to mitigate problems likely to bias the fixed effects estimates (such as erroneous or endogenous switches) do not seem to have an impact on the magnitude of the coefficients.

The pieces of evidence provided in Table 4.9 imply that the fact that fixed effects estimates are in most countries considerably lower than those obtained by pooled OLS does not appear to stem from attenuation bias generated by measurement error. Such a relationship suggests, instead, a positive selection effect that justifies that individuals with better human capital endowments prefer to work in the public rather than in the private sector.

Table 4.9 Fixed Effects estimations: robustness checks

	FE	First diff. OLS	FE, without Pri-Pub switches(1)	FE, without Pub-Priv switches(2)	FE, without "false" switches(3)	FE, exogenous switches only(4)
Germany	-1.3	-1.8**	-1.9	0.1	-1.8*	-1
Netherlands	0.3	0.2	1.5	-1	0.3	0.4
Belgium	-1.9	0.3	-4.7	-0.6	-2.9	-2.1
Luxembourg	-0.1	-0.1	-0.8	0.5	-0.1	-0.2
France	-5.4	-4.2*	-8.7*	-3.7	-5.1	-4.5
Ireland	3**	4.8**	10.6**	0.9	3.4*	3.2*
Italy	-0.7	-0.2	-1.3	-1.3	-1.1	-0.7
Greece	4.3**	2.2**	5.9**	6.3**	4.8**	4.1**
Spain	1.1	1.2	0.3	-0.1	0.4	1.2
Portugal	0.4	1.2**	1.7	0.2	0.5	-0.2
Austria	0.1	0.3	0.1	0.6	0.4	0.3
Finland	-0.1	-0.1	0.5	-2.5	-0.1	0.2

Sources: Author's calculations based on ECHP microdata.
Notes: The table presents the estimates of coefficient of the public sector dummy (multiplied by 100), obtained from the following alternative specifications: **(1)** Excluding from the sample switches from the private to the public sector; **(2)** Excluding from the sample switches from the public to the private sector; **(3)** Excluding from the sample possibly false switches (to mitigate the probability of measurement errors, we exclude from the sample movements across sectors that are not accompanied by a reset of the job-specific tenure); **(4)** Considering only "exogenous" sector switches (identified as those that are motivated by factors that are exogenous to the individual: "obliged to stop by employer"; "end of contract/ temporary job"; "sale/ closure of own or family business"; "study / national service").
* signals significance at the 10 per cent level, while ** tags coefficients that are significant at the 5 per cent level.

Further evidence: disentangling the differences between OLS and fixed effects estimates

The existence of a public sector effect can be further analysed by understanding the differences between results obtained using OLS and fixed effects. In particular, such analysis is useful to assess whether the public-private conditional wage differential should be seen as an actual public sector premium, as a result of the sorting of individuals across sectors determined by their unobserved idiosyncrasies or the combined effect of the two. In order to do so, we undertake an exercise similar to that in Gibbons and Katz (1989), focusing on the sub-sample of individuals constituted by sector switchers and assuming that there are only two moments in time: pre- and post-switch (respectively, $t = 1$ and $t = 2$).

We begin by estimating the pre-switch wage differential between the pub-

lic and private sectors from the function

$$ln(wage_{i,1}) = X'_{i,1}\beta + \delta P_{i,1} + \varepsilon_{i,1}, \tag{4.10}$$

where the variables and parameters have the same meaning as in the previous equations. Again, $\hat{\delta}$ represents the public-private wage gap.

Second, we estimate the first-differenced equation:

$$\Delta ln(wage_{i,2}) = \Delta X'_{i,2}\beta + \rho \Delta P_{i,2} + \Delta \varepsilon_{i,2}, \tag{4.11}$$

where the dependent variable represents the logarithm of the post-switch monthly wage as a ratio to that earned before the movement. Note that this estimation takes into account individual-specific and time-invariant unobservable factors, under the assumption that they are equally valued in the public and private sectors.

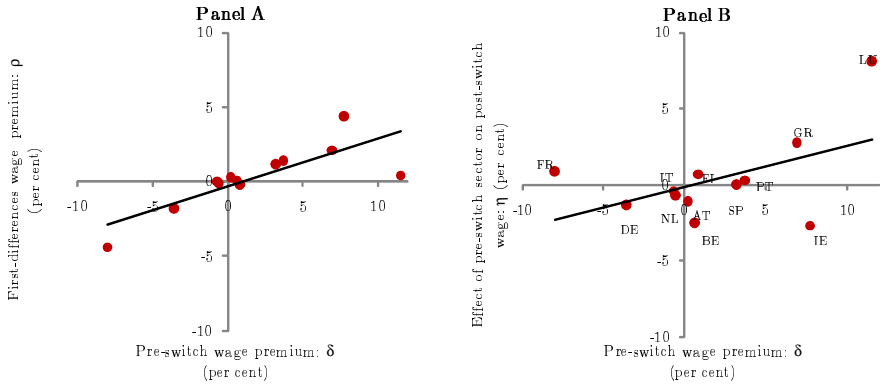
Finally, we estimate the effect of the pre-switch sector on post-switch wage from equation

$$ln(wage_{i,2}) = X'_{i,1}\beta + \eta P_{i,1} + v_{i,2}, \tag{4.12}$$

where the dependent variable is the wage earned after the change of sector and the set of covariates in vector $X_{i,1}$ is measured before the switch. $P_{i,1}$ equals one if the switcher left the public sector and joined the private sector (and zero if the switch was in the opposite direction). Therefore, the impact of the pre-switch sector on the post-change earnings is given by $\hat{\eta}$.

As Gibbons and Katz (1989) points out, if the conditional wage differential given by $\hat{\delta}$ is exclusively due to the sorting of employees across sectors as a result of individual-specific factors, the $\hat{\rho}$ parameter in equation (4.11) should be null. Moreover, one would expect that if individual unobserved heterogeneity is the sole explanation for public-private wage gap, employees in better-remunerated positions that switch sector would have higher post-switch wages than those that were originally in low-wage jobs. This would imply a positive relationship between the $\hat{\eta}$ and $\hat{\delta}$ parameters. On the contrary, if the wage differential is a true public sector premium, then $\hat{\rho}$ should equal $\hat{\delta}$.

Figure 4.11 Public-private wage differential: a "pure" public premium or the result of self-selection?



Sources: Author's calculations based on ECHP microdata.
Notes: The figure plots the estimates for the public-private wage gap obtained from equation (4.10) against the $\hat{\rho}$'s, from (4.11), and the $\hat{\eta}$'s, from (4.12) (respectively in panels A and B). Note that, in both cases, the estimations were conducted only for the sub-sample of individuals that switch sectors along the 1993-2000 period.

Results in Figure 4.11 show that the public-private conditional wage differentials are a mixture of these two effects. Indeed, in the one hand, Panel A of Figure 4.11 (that plots $\hat{\delta}$ against $\hat{\rho}$) shows that, in general, individuals that move from the private to the public sector are affected by wage changes of the same sign and of similar magnitude of the public-private gap estimated from equation (4.10) (although in the majority of countries individuals originally in the public sector tend to benefit from higher gaps than those that switched from the private sector). Moreover, as expected, the gap estimated for the sub-sample of switchers is generally smaller than those obtained using the fixed effects estimator for the entire sample (depicted in Figure 4.9), suggesting that the individuals that change sector are those that were originally benefiting from lower gaps. These pieces of evidence seem to suggest that movements across sectors are motivated by genuine pay differences, implying the existence of a "sector effect". However, on the other hand, the positive relationship between the $\hat{\eta}$ and $\hat{\delta}$ parameters (depicted in Panel B of Figure 4.11) implies that in most countries (the exceptions being Belgium, France, Ireland and Austria) the individuals that move from high-pay jobs in the public sector continue to benefit from a positive wage differential vis-à-vis those that switched from positions corresponding to lower remunerations. This is inconsistent with a "pure" public sector premium, as it implies that individual unobserved heterogeneity justifies the maintaining

of those wage differentials. Therefore, this exercise shows that the differences between pooled-OLS and fixed effects estimates may be explained, at least partially, by self-selection effects, although in some countries there is evidence of non-negligible "sector effects".

4.3.2.3 Longitudinal approach II: the public-private wage gap and the role of unobservable characteristics across the distribution

In order to assess the impact of sector selection on the public-private wage gap along the distribution, we begin by comparing, in Table 4.10 the results of the estimation of δ_θ using specification (4.8) with those obtained using a pooled-QR approach (with time-dummies),

$$Quant_\theta[ln(wage_i)|X_i, P_i] = \gamma_{\theta_t} + X_i'\beta_\theta + \delta_\theta P_i \ , \tag{4.13}$$

assuming $ln(wage_i) = \gamma_{\theta_t} + X_i'\beta_\theta + \delta_\theta P_i + \varepsilon_{\theta_i}$.

Table 4.10 shows that after controlling for both observable and time-invariant unobservable factors there is still evidence of a significant and positive public-private wage gap for males and females in several countries, but this is not as clear as implied by the results from standard QR. Typically, these gaps decrease with the wage level and, at the upper quantiles of the distribution, there are numerous cases of penalties.[26]

The comparison between the estimates based on the QR fixed effects approach (that controls for endogenous sector choice) and the pooled-QR methodology (that assumes that the choice of sector is exogenous) shows that the former are generally lower. This confirms the insight provided by the OLS estimates, suggesting that the fact that individual heterogeneity contributes to attenuate the public-private wage gap is present along the entire distribution. Moreover, our results suggest that, once unobservable time-invariant factors are accounted, differences in the gaps along the distribution are considerably smaller, thus the usually documented effect of conditional wage compression by the public sector tends to disappear. In most countries in our sample, differences between fixed effects and traditional QR estimates appear to stem from a positive selection effect at the lower quantiles, specially

[26]See Table B.4 in Appendix B for the results of the estimations using the fixed effects QR approach.

in the case of women. In fact, figures in Table 4.10 suggest that, on average, better-endowed women with lower wages self-select into the public sector, but this effect becomes less obvious as one moves up the wage distribution and is not as clear for male individuals.[27] According to Bargain and Melly (2008) (that found essentially the same patterns using data from the French Labour Force Survey), this kind of evidence suggests the following interpretation: the individuals at the lower part of the wage distribution are those that, due to personal preferences, self-select into the public sector, but also those that, probably because of relatively better endowments, have succeeded in entry examinations or other screening procedures (that are typically more common and stricter in the public sector). At the upper quantiles, results show several cases of penalties, generally associated with a negative selection effect. Finally, it is also interesting that, while the pooled-QR estimates point that women working in the public sector generally benefit from higher gaps than men, this is not as obvious in the results obtained from the fixed effects QR methodology. In fact, according to the latter results, there are numerous countries in which we find that the public-private wage gap estimated for men is above that obtained for women[28], particulary at the lower quantiles of the distribution.

In order to check if the evidence just described changes when the public-private wage gap is allowed to vary along time, we repeat the estimation of model (4.8), but including terms expressing the interaction between the public sector dummy and year dummies (taking the last available year as a reference). Estimates obtained pooling data for men and women show that, when both observables and unobservables are controlled for, the coefficient associated with public sector employment decreases with the wage level and is consistently negative in Germany, Belgium, Luxembourg, France and Austria, while in the remaining countries it is positive along the entire period (see Table B.4 - Appendix B). However, the coefficients are generally not statistically significant.

[27]Exceptions to this feature refer to cases for which the pooled-QR approach yield wage penalties for public employees, that are either attenuated or become slightly positive once unobservables are controlled for.

[28]Note that in several cases, we find evidence of positive public-private gaps for men and negative gaps for women.

Table 4.10 Public-private wage gap across the distribution: the role of selection (per cent)

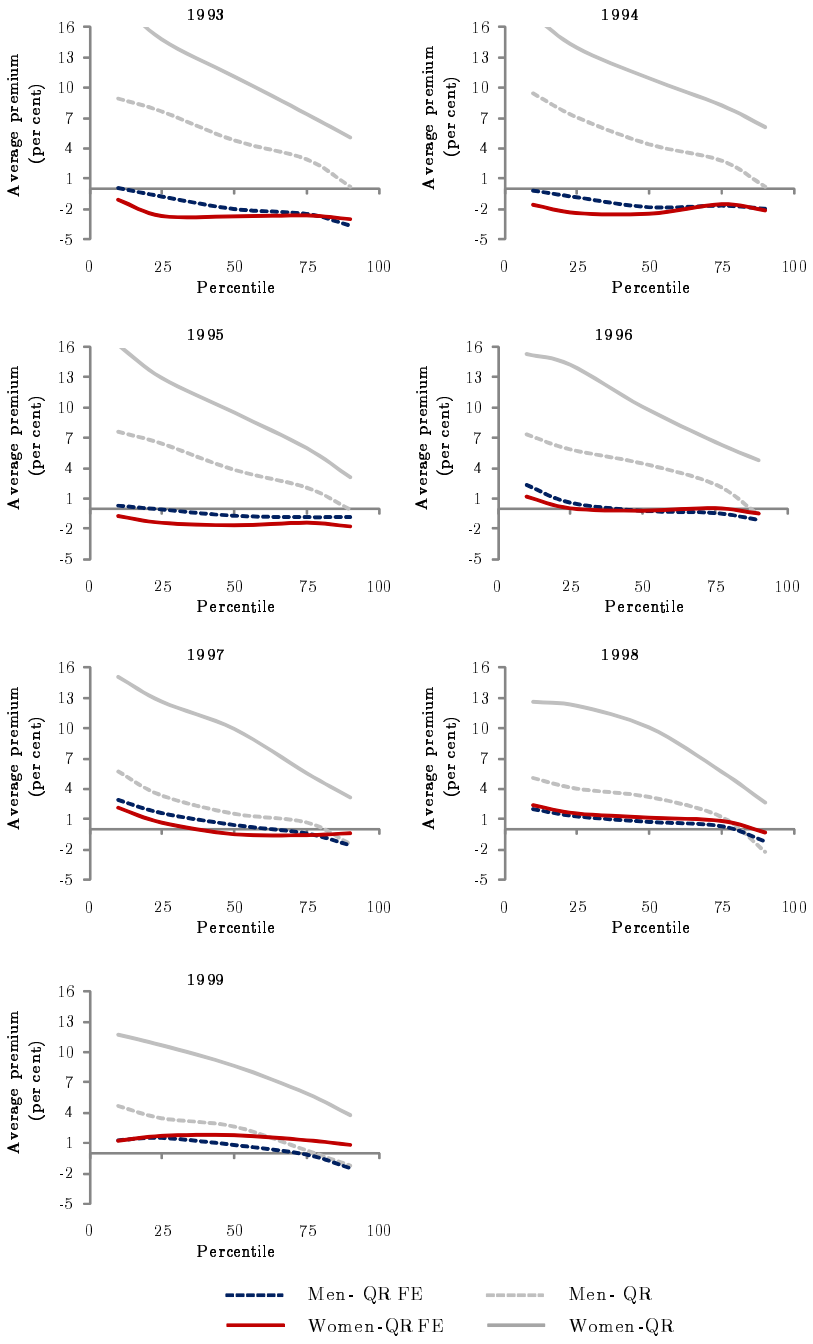
	Pooled QR (exogenous sector choice)					Fixed Effects QR (endogenous sector choice)				
	Men									
	10%	25%	50%	75%	90%	10%	25%	50%	75%	90%
Germany	6.60 *	5.40 *	5.20 *	6.10 *	3.80 *	-0.70 *	-1.30 *	-1.80 *	-2.10 *	-2.90 *
Netherlands	0.90	2.10 *	1.10 *	-1.90 *	-4.70 *	1.50 *	0.60 *	-0.30	-0.70 *	-1.60 *
Belgium	-0.80	0.90	-2.00	-5.80 *	-5.50 *	0.80	1.30 *	0.40	-0.60	-2.30 *
Luxembourg	21.80 *	18.30 *	14.30 *	8.30 *	4.40	-2.30 *	-2.00 *	-2.10 *	-2.30 *	-3.10 *
France	3.60 *	1.10	-0.70	-2.50 *	-5.10 *	-2.70 *	-3.70 *	-4.40 *	-4.70 *	-5.10 *
Ireland	12.90 *	10.30 *	6.90 *	3.50 *	0.50	5.40 *	5.00 *	4.10 *	3.60 *	2.70 *
Italy	2.80 *	0.70	0.10	-0.50	-2.50 *	0.60	-0.10	-0.80 *	-1.40 *	-2.30 *
Greece	15.90 *	12.60 *	8.30 *	5.50 *	-0.60	3.70 *	3.00 *	2.60 *	2.20 *	0.70
Spain	10.80 *	8.90 *	5.10 *	0.60	-2.20 *	4.10 *	2.60 *	1.30 *	0.00	-1.40 *
Portugal	7.40 *	4.80 *	3.80 *	7.10 *	8.90 *	2.50 *	1.30 *	0.80 *	0.60 *	-0.10
Austria	-1.00	-2.90 *	-1.10	0.20	-2.40	0.30	0.10	-0.20	0.10	-1.00
Finland	-1.80 *	-2.90 *	-4.60 *	-6.10 *	-4.80 *	1.10 *	0.70 *	-0.10	-0.20	-1.60 *
	Women									
	10%	25%	50%	75%	90%	10%	25%	50%	75%	90%
Germany	18.70 *	13.40 *	7.90 *	5.30 *	5.20 *	-0.80 *	-1.40 *	-1.50 *	-2.10 *	-2.70 *
Netherlands	8.20 *	7.70 *	5.70 *	1.80 *	0.60	1.20 *	0.80 *	0.10	-0.40	-1.50 *
Belgium	7.60 *	6.20 *	2.60 *	-0.80	-1.90	-0.30	0.40	-0.30	-0.20	0.80
Luxembourg	21.50 *	16.10 *	15.00 *	9.40 *	6.50 *	-2.30	-1.60 *	-1.80 *	-2.10 *	-2.00
France	10.30 *	7.90 *	3.70 *	-1.00	-3.20 *	-2.10 *	-3.40 *	-4.20 *	-5.00 *	-5.60 *
Ireland	21.30 *	21.20 *	16.70 *	12.70 *	15.10 *	3.70 *	3.50 *	4.80 *	4.50 *	3.20 *
Italy	18.40 *	11.50 *	6.10 *	2.50 *	-1.60	1.00 *	-0.20	-0.70 *	-1.50 *	-3.00 *
Greece	19.70 *	19.50 *	17.00 *	11.20 *	6.20 *	1.40	0.30	0.90	2.50 *	1.90 *
Spain	23.10 *	18.20 *	16.00 *	11.80 *	6.20 *	4.00 *	3.20 *	0.90 *	-0.10	-1.80 *
Portugal	17.40 *	18.30 *	16.00 *	13.70 *	12.10 *	0.90 *	0.30	0.30	1.30 *	1.40 *
Austria	6.30 *	7.80 *	8.70 *	9.00 *	4.70 *	-0.50	-0.40	-0.20	0.60 *	0.60
Finland	1.40 *	1.10	-2.00 *	-5.30 *	-8.40 *	0.60	0.10	-0.30	-0.40	-0.70
	Total									
	10%	25%	50%	75%	90%	10%	25%	50%	75%	90%
Germany	10.30 *	8.30 *	6.30 *	5.50 *	4.00 *	-0.90 *	-1.40 *	-1.70 *	-2.10 *	-2.80 *
Netherlands	2.70 *	4.00 *	2.70 *	-1.20 *	-3.20 *	1.40 *	0.70 *	-0.10	-0.60 *	-1.70 *
Belgium	3.10 *	3.70 *	1.00	-3.50 *	-4.40 *	-0.20	0.80 *	0.10	-0.40	-0.30
Luxembourg	20.50 *	16.80 *	14.20 *	8.60 *	3.60 *	-2.10 *	-1.80 *	-2.00 *	-2.10 *	-3.40 *
France	6.50 *	5.10 *	1.10 *	-1.80 *	-4.50 *	-2.60 *	-3.50 *	-4.40 *	-4.80 *	-5.40 *
Ireland	17.10 *	13.60 *	10.70 *	6.90 *	5.30 *	4.80 *	4.70 *	4.50 *	3.90 *	3.10 *
Italy	7.60 *	4.60 *	2.30 *	0.60	-2.10 *	0.70 *	-0.10	-0.80 *	-1.50 *	-2.60 *
Greece	17.40 *	15.10 *	11.40 *	8.10 *	1.60	2.90 *	2.00 *	2.00 *	2.60 *	1.30 *
Spain	15.00 *	12.00 *	9.00 *	4.70 *	1.50	4.10 *	2.60 *	1.10 *	0.00	-1.60 *
Portugal	11.90 *	11.40 *	10.70 *	11.60 *	12.30 *	1.60 *	0.80 *	0.50 *	1.10 *	0.80 *
Austria	1.80 *	2.00 *	3.00 *	3.70 *	1.60	-0.10	-0.20	-0.20	0.30	-0.30
Finland	0.10	-0.60	-2.70 *	-5.40 *	-7.10 *	0.90 *	0.50 *	-0.20	-0.40 *	-1.30 *

Sources: Author's calculations based on ECHP microdata.
Notes: The table presents the coefficients of the public sector dummy estimated using specifications (4.8) and (4.13), multiplied by 100. The estimations were conducted separately for male and female individuals, except in the case of the results labeled "Total", in which case the set of regressors encompasses a dummy that equals 1 for men. The coefficients tagged with * are significant, at least, at the 10 per cent level.

Figure 4.12 compares the average public sector coefficients obtained using Canay (2010)'s approach with those depicted in Figure 4.7. Such comparison provides insight on how does self-selection affects the wage gap at different points of the distribution and along time. This figure confirms that unobservable time-invariant factors play a highly important role in explaining the public-private wage gap and that, once these factors are controlled for, gender inequalities are partially washed-down. It also clarifies that selection impacts differently on men and women, the latter being more sensitive. In fact, on average, fixed effects estimation attenuates the differences in the magnitudes of the gap computed both for men and women, but, as opposed to standard QR estimates, it generally yields lower coefficients for the latter, particularly at the bottom of the distribution.

On average, the public-private wage gap increased along the 1993-2000 period. In particular, in the first half of this period, the average coefficient associated with public sector employment was negative but converging to zero, at every quantile considered. It then became slightly positive around 1996-1997 and remained relatively stable onwards, except at the 9^{th} decile of the distribution, where we find evidence of penalties along the entire period.

Figure 4.12 Public-private wage gap across the distribution and along time: the role of selection



Sources: Author's calculations based on ECHP microdata.
Notes: The figure presents, for each year, the average gap computed using the coefficients of the public sector dummy estimated using specification (4.8) and compares it with those obtained based on specification (4.13). In both cases, the estimations were undertaken separately for men and women.

4.3.2.4 Longitudinal approach III: Fiscal adjustments and the public-private wage gap, controlling for individual unobservable characteristics

Table 4.11 presents the estimates of the public-private wage gap obtained for episodes of fiscal adjustment, controlling for unobservable characteristics.

Regarding the developments before and after the adjustments, results across the entire distribution provide mixed evidence. On the one hand, most adjustments were both preceded and followed by increases in the gap, specially at the lower part of the distribution. On the other hand, there are episodes before which the public-private wage gap decreased, particularly as regards the upper quantiles. However, even in the latter case, the narrowing of the differential seems to have been shortly reversed in the following year, suggesting that any attempt to bring down the gap did not have persistent results.

Table 4.11 Fiscal adjustments and the public-private wage gap, controlling for individual unobservable characteristics

	Public-private wage gap, controlling for unobservable characteristics (per cent)								
	Q25			Mean			Q75		
Episode	t-1	t	t+1	t-1	t	t+1	t-1	t	t+1
Belgium; 1993	-	0.3	1.0	-	-3.8	-3.3	-	-0.2	-0.8
The Netherlands; 1993	-	1.4	0.9	-	2.0	1.5	-	-0.5	-0.3
Luxembourg; 1993	-	-3.8	-3.1	-	-0.8	-1.3	-	-4.4	-3.6
Italy; 1993	-	-0.4	-1.5	-	0.3	-0.8	-	-1.7	-2.3
Luxembourg; 1994	-3.8	-3.1	-1.8	-0.8	-1.3	-0.1	-4.4	-3.6	-2.6
Greece; 1994	-6.0	-6.6	-3.4	-2.7	-2.1	-0.1	-7.0	-5.1	-2.0
Finland; 1994	-	-	0.4	-	-	0.4	-	-	-0.6
Italy; 1995	-1.5	-2.4	0.1	-0.8	-2.1	0.3	-2.3	-3.1	-0.8
Portugal; 1995	-0.9	-0.8	-0.3	-0.3	0.4	0.3	-0.5	-0.3	0.1
Greece; 1996	-3.4	4.6	5.0	-0.1	6.5	5.8	-2.0	5.1	3.9
Austria; 1996	-0.2	-0.3	-0.2	0.3	-0.7	-0.2	0.0	-0.7	-0.5
Luxembourg; 1997	-1.8	-0.2	-1.9	-0.9	0.8	-1.0	-1.9	-3.4	-3.9
Austria; 1997	-0.3	-0.2	-0.4	-0.7	-0.2	-0.2	-0.7	-0.5	0.3
Finland; 1998	0.6	0.0	0.7	-0.3	-0.9	-0.8	-0.8	-1.1	-0.4
Finland; 2000	0.7	-	-	-0.8	-	-	-0.4	-	-

Sources: Author's calculations based on ECHP microdata.

5 Concluding remarks

This paper investigates the relationship between the occurrence of episodes of fiscal adjustment and the evolution of the public-private wage gaps that are commonly identified in the literature, within the 1993-1997 time-frame and among the countries that were then on the run-up to become founding members of the euro area.

The analysis begins by focusing on a broader OECD sample and identifying several episodes of fiscal adjustment that verify a number of stylized facts. In particular, it is concluded that the success of deficit correction efforts relies not only on the magnitude of the adjustments, but specially on their composition: fiscal adjustments based on expenditure cuts tend to be more successful than those relying primarily on the revenue side. Moreover, in successful adjustments the bulk of expenditure decline consists of cuts in transfers and compensation of employees, while in unsuccessful adjustments expenditure retrenchment primarily relies on cuts in public investment. Regarding, more specifically, the episodes identified in countries that were in 1993-1997 on the path to adopt the single currency, the evidence suggests that being engaged in the fulfilment of the Maastricht criteria is not a statistically significant determinant of fiscal consolidation. Additionally, none of the adjustments that took place in these countries and within the 1993-1997 period was successful in persistently reducing the deficit and public debt ratios. This is not a surprising outturn, given that these adjustments were mostly made on the revenue side rather than based on expenditure retrenchment and, in particular, no major efforts seem to have been made regarding cuts in compensation of employees.

In order to better assess the behaviour of compensation of employees, microeconomic data for euro area countries along the 1993-2000 period is used. The focus of the analysis relies on the evolution of public employment, the growth rate of public sector wages and, more thoroughly, the public-private wage gap. The results provide evidence that this period was characterized by a relative moderation both in terms of the hiring of civil servants and the growth rate of public sector wages. However, this feature is not exclusively related to the occurrence of fiscal adjustments, as it is also observable in countries in which such episodes were not identified.

Regarding the public-private wage gap, there seems to have been a rise during the course of the 1993-2000 period, with civil servants, on average, becoming increasingly beneficiated vis-à-vis their private sector counterparts

with the same observable and unobservable attributes (specially as regards individuals with lower wages). This increase is particularly noticeable after 1997, when the episodes of fiscal adjustment became more scarce. In fact, the gap estimated for country-year pairs corresponding to episodes of fiscal adjustment is, in general, below those computed for the whole set of countries in our sample. However, there is no clear relationship between fiscal adjustments and the evolution of the public-private wage gap, with results varying considerably across countries.

Putting all these pieces of evidence together suggests that, on the run-up to the euro area, cyclical and interest-rate conditions made it easier to comply with the Maastricht criteria without major efforts in politically costly expenditure items. Developments regarding, more specifically, the expenditure with compensation of employees show that, although there is evidence of a relative moderation in terms of new admissions, wage growth and wage gaps, it is not striking and appears to have been reversed shortly after the assessment of the criteria. This may explain why, out of the fiscal adjustments identified in euro area countries in 1993-1997, none seems to have had persistent effects in terms of public debt reduction.

Against the current background of uncertainty related to the macroeconomic scenario and upward pressure on government financing costs, it is clear that, in order to bring down deficits and comply with the SGP commitments, relying on cyclical and interest-rate developments would not be enough. Correcting fiscal imbalances in the present context requires governments to adopt strong and assertive strategies. To ensure the persistence of the adjustments currently in progress, efforts should be mostly concentrated on expenditure retrenchment. Among expenditure items, compensation of employees can play an important role in consolidation efforts, specially in the case of countries with high public employment and where public sector wages are above those of the private sector. The control of the public wage bill is imperative, not only because it represents a significant part of total government spending, but because there is wide empirical evidence linking the success of fiscal adjustments to the retrenchment of public wages and employment. These factors, in addition to potential effects on private sector wages and resulting competitiveness gains, may help to understand the recently announced cuts in public sector wages and employment in several euro area countries.

References

Alesina, A. and Ardagna, S. (1998), 'Tales of fiscal adjustment', *Economic Policy* .

Alesina, A. and Ardagna, S. (2009), Large changes in fiscal policy: taxes versus spending, Working Paper Series 15438, NBER.

Alesina, A., Ardagna, S. and Galasso, V. (2008), The euro and structural reforms, Technical Report 14479, NBER.

Alesina, A. and Perotti, R. (1995), Fiscal expansions and fiscal adjustments in OECD countries, Working Paper Series 5214, NBER.

Alesina, A. and Perotti, R. (1996*a*), Fiscal adjustments in OECD countries: composition and macroeconomic effects, Working Paper Series 5730, NBER.

Alesina, A. and Perotti, R. (1996*b*), 'Reducing budget deficits', *Swedish Economic Policy Review* (3).

Alesina, A., Perotti, R., Tavares, J., Obstfeld, M. and Eichengreen, B. (1998), 'The political economy of fiscal adjustments', *Brookings Papers on Economic Activity* **1998**(1).

Angrist, J. and Pischke, J. (2009), *Mostly harmless econometrics*, Princeton University Press.

Bargain, O. and Kwenda, P. (2009), The informal sector wage gap: New evidence using quantile estimations on panel data, Discussion paper 4286, IZA.

Bargain, O. and Melly, B. (2008), Public sector pay gap in France: new evidence using panel data, Discussion paper 3427, IZA.

Barrios, S., Langedijk, S. and Pench, L. (2010), 'EU fiscal consolidation after the financial crisis: Lessons from the past experiences', *Proceedings of the 12th Banca d' Italia Public Finance Workshop* .

Blinder, A. (1973), 'Wage discrimination: reduced form and structural estimates', *Journal of Human Resources* **8**.

Boyle, G., McElligott, R. and O'Leary, J. (2004), 'Public-private wage differentials in Ireland, 1994-2001', *Quarterly Economic Commentary: Special Articles* **2004**(2).

Cabral, A. (2001), Main aspects of the working of the stability and growth pact, *in* A. Brunila, M. Butu and D. Franco, eds, 'The Stability and Growth Pact: the architecture of fiscal policy in EMU', Palgrave.

Campos, M. M. and Pereira, M. C. (2009), 'Wages and incentives in the Portuguese public sector', *Banco de Portugal Economic Bulletin* **14**(2).

Canay, I. (2010), A note on quantile regression for panel data models, Mimeo, Department of Economics, Northwestern University.

Disney, R. and Gosling, A. (1998), 'Does it pay to work in the public sector?', *Fiscal Studies* **19**(4).

Dolado, J. and Llorens, V. (2004), Gender wage gaps by education in Spain: Glass floors vs. glass ceilings, Working Paper Series 0403, CEMFI.

Eichengreen, B. and Wyplosz, C. (1998), 'The Stability Pact: more than a minor nuisance?', *Economic Policy* **26**.

EMI, ed. (1995), *Progress towards convergence*, European Monetary Institute.

European Commission (1998), 'Commission's recommendation concerning the third stage of economic and monetary union', *European Economy* **65**.

Fatas, A. and Mihov, I. (2009), The euro and fiscal policy, Working Paper Series 14722, NBER.

Galvão, A. (2008), Quantile regression for dynamic panel data with fixed effects, working paper, University of Wisconsin-Milwaukee.

Gibbons, R. and Katz, L. (1989), Does unmeasured ability explain inter-industry wage differences?, Working Paper Series 3182, NBER.

Gong, X. and van Soest, A. (2002), 'Wage differentials and mobility in the urban labour market: a panel data analysis for Mexico', *Labour Economics* **9**.

Jurges, H. (2002), 'The distribution of German public-private wage gap', *Labour* **16**.

Kato, K. and Galvão, A. (2010), Smoothed quantile regression for panel data, Mimeo.

Koenker, R. (2004), 'Quantile regression for longitudinal data', *Journal of Multivariate Analysis* **91**.

Koenker, R. and Bassett, G. (1978), 'Regression quantiles', *Econometrica* **44**(1).

Lucifora, C. and Meurs, D. (2004), The public sector pay gap in France, Great Britain and Italy, Discussion paper 1041, IZA.

Machado, J. A. F. and Mata, J. (2001), 'Earning functions in portugal 1982-1994: Evidence from quantile regressions', *Empirical Economics* **26**(1).

Melly, B. (2002), Public-private sector wage differentials in Germany: Evidence from quantile regression, Technical report, SIAW, University of St. Gallen, Switzerland.

Norton, E., Wang, H. and Ai, C. (2004), 'Computing interaction effects and standard errors in logit and probit models', *The Stata Journal* **4**(2).

Oaxaca, R. (1973), 'Male-female wage differentials in urban labor markets', *International Economic Review* **14**.

Obstfeld, M. (1997), 'Europe's gamble', *Brookings Papers on Economic Activity* **1997**(2).

Peracchi, F. (2002), 'The European Community Household Panel: A review', *Empirical Economics* **27**.

Ponomareva, M. (2010), Quantile regression for panel data models with fixed effects and small T: Identification and estimation, Mimeo, Department of Economics, Northwestern University.

Appendix

A List of episodes of fiscal adjustment

Table A.1 Episodes of fiscal adjustment

	Episodes of Fiscal Adjustment	Successful Episodes	Unsuccessful Episodes
Austria	1984 ;1996 ;1997 ; 2001 [1] [1] [0] [0]	- -	1984 ; 1996 ; 1997 ; 2001
Belgium	1982 ;1983 ;1984 ; 1993 [5] [4] [3] [1]	1982**; 1983**	1982*; 1983*; 1984 ; 1993
Canada	1981 ;1986 ;1995 ;1996 ; 1997 [0] [2] [2] [1] [0]	1995**; 1996*; 1997*	1981 ; 1986 ; 1995*; 1996**; 1997**
Germany	- -	- -	- -
Denmark	1983 ;1984 ;1985 ; 1986 [3] [2] [1] [0]	1983**; 1984 ; 1985*; 1986*	1983*; 1985**; 1986**
Spain	1992 [5]	- -	1992
Finland	1981 ;1984 ;1988 ;1994 ;1998 ; 2000 [0] [0] [0] [6] [2] [0]	1988*; 1998 ; 2000*	1981 ; 1984 ; 1988**; 1994 ; 2000**
France	- -	- -	- -
United Kingdom	1981 ;1997 ; 1998 [1] [3] [2]	1997*; 1998*	1981 ; 1997**; 1998**
Greece	1982 ;1986 ;1990 ;1994 ; 1996 [1] [2] [4] [0] [0]	1990**	1982 ; 1986 ; 1990*; 1994 ; 1996
Ireland	1983 ;1984 ;1987 ; 1988 [1] [0] [2] [1]	1987 ; 1988*	1983 ; 1984 ; 1988**
Italy	1982 ;1993 ; 1995 [2] [0] [2]	- -	1982 ; 1993 ; 1995
Japan	1984 [1]	- -	1984
Luxembourg	1993 ;1994 ; 1997 [4] [3] [0]	1993**; 1994**	1993*; 1994*; 1997
Netherlands	1983 ;1991 ; 1993 [0] [0] [0]	- -	1983 ; 1991 ; 1993
Norway	2000 [0]		2000
Portugal	1982 ;1983 ;1992 ; 1995 [2] [1] [0] [0]	1982**	1982 *; 1983 ; 1992 ; 1995
Sweden	1983 ;1987 ;1996 ; 1997 [1] [0] [4] [3]	1987* ; 1996**; 1997*	1983 ; 1987**;1996*; 1997**
United States	- -	- -	- -
Total - Debt criterium		14	41
Total - Deficit criterium		12	43

Sources: Author's calculations.
Notes: The table lists all the episodes identified in the sample. Figures in brackets are the number of consecutive years during which, after the initial adjustment, the cyclically-adjusted primary balance continued to improve. Episodes marked with * are classified according to the debt criterion (successful adjustments are those in which, after three years, the cumulative decline in the debt to GDP ratio is sharper than the value of the 25^{th} percentile of the distribution); episodes marked with ** are classified according to the deficit criterion (success corresponds to situations in which, along the three years following the adjustment, the primary deficit is at least 2 p.p. below its level on the tight year); for the remaining episodes, the classification is the same according to both criteria.

B Estimation results

Table B.1 OLS estimates

Germany

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.04**	0.05**	0.06**	0.06**	0.06**	0.06**	0.09**	0.08**	0.11**	0.11**	0.12**	0.10**	0.07**	0.09**	0.09**	0.09**
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.00**	0.00**	0.00	-0.00	0.00	0.00	0.00*	0.00	0.00**	0.00*	0.00*	0.00*	0.00**	0.00**	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.11**	0.11**	0.13**	0.13**	0.12**	0.11**	0.11**	0.12**	-0.14**	-0.13**	-0.12**	-0.09**	-0.09**	-0.10**	-0.10**	-0.09**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.27**	0.27**	0.27**	0.25**	0.24**	0.26**	0.25**	0.25**	0.24**	0.26**	0.27**	0.25**	0.23**	0.24**	0.25**	0.27**
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.05**	0.04**	0.04**	0.05**	0.04**	0.03**	0.02	0.04*	0.08**	0.06**	0.07**	0.11**	0.07**	0.08**	0.10**	0.12**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.93**	6.96**	7.00**	7.04**	7.03**	7.04**	7.06**	7.11**	6.78**	6.81**	6.81**	6.79**	6.76**	6.76**	6.77**	6.82**
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)
N	4 447	4 913	4 585	2 457	2 318	2 171	2 107	1 847	2 132	2 496	2 331	1 338	1 290	1 234	1 199	1 009
R^2	0.21	0.21	0.23	0.20	0.20	0.21	0.23	0.19	0.20	0.20	0.21	0.18	0.17	0.17	0.16	0.16

The Netherlands

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	-0.01	0.00	-0.00	-0.00	-0.01	-0.01	-0.02	-0.03**	0.05**	0.05**	0.04**	0.04**	0.08**	0.05**	0.03	0.05*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.08**	0.08**	0.08**	0.08**	0.09**	0.07**	0.07**	0.07**	-0.02	-0.04**	-0.04**	-0.04**	-0.04**	-0.05**	-0.03	-0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.34**	0.30**	0.29**	0.28**	0.27**	0.25**	0.24**	0.24**	0.28**	0.26**	0.25**	0.25**	0.23**	0.22**	0.23**	0.24**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.07**	0.03**	0.01	0.01	-0.02	-0.03**	-0.03**	-0.04**	0.08**	0.04*	0.04*	0.02	0.02	0.01	0.06**	0.09**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
tenure	0.00	0.00*	0.00**	0.00	-0.00	0.00	-0.00	-0.00**	0.00**	0.00*	0.00**	0.00**	0.00*	0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.58**	6.66**	6.70**	6.73**	6.77**	6.80**	6.82**	6.80**	6.62**	6.63**	6.71**	6.76**	6.81**	6.79**	6.86**	6.85**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.06)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)
N	1 620	1 908	1 946	1 944	1 881	1 904	1 907	1 621	529	695	695	688	673	674	707	578
R^2	0.40	0.41	0.39	0.37	0.37	0.33	0.34	0.29	0.38	0.38	0.36	0.33	0.29	0.30	0.24	0.24

Notes: The table presents the results of standard OLS regressions applied to data for each country and each wave in the panel, separately for men and women. Coefficients tagged with * are significant at the 10 per cent level, whereas ** signals significance at the 5 per cent level. Robust standard-errors are presented in parentheses.

Table B.1 OLS estimates *(Cont.)*

Belgium

	Men					Women				
	1993	1994	1995	1996	1997	1993	1994	1995	1996	1997
public	-0.05	-0.04	-0.04	-0.03	-0.03	0.05	0.03	0.05**	0.02	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00	-0.00	-0.00**	-0.00	-0.00**	-0.00*	-0.00**	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.13**	0.09**	0.09**	0.06**	0.09**	-0.10**	-0.07**	-0.06**	-0.05**	-0.01
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
educ_third	0.26**	0.25**	0.27**	0.28**	0.32**	0.25**	0.23**	0.23**	0.23**	0.27**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
educ_sec	0.06**	0.03	0.05**	0.05*	0.10**	0.08**	0.07**	0.07**	0.05	0.10**
	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)
tenure	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00*	0.00**	0.01**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.61**	6.71**	6.66**	6.67**	6.59**	6.59**	6.64**	6.67**	6.73**	6.58**
	(0.05)	(0.04)	(0.04)	(0.05)	(0.07)	(0.06)	(0.05)	(0.05)	(0.06)	(0.07)
N	586	638	537	422	314	356	393	336	281	205
R^2	0.29	0.32	0.36	0.37	0.39	0.33	0.35	0.36	0.41	0.38

Luxembourg

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.16**	0.18**	0.17**	0.19**	0.09*	0.09*	0.06	0.09**	0.18**	0.10*	0.14**	0.20**	0.21**	0.14**	0.07	0.07
	(0.03)	(0.03)	(0.04)	(0.02)	(0.06)	(0.05)	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.03)	(0.06)	(0.05)	(0.06)	(0.06)
age	0.01**	0.01**	0.01**	0.02**	0.00	0.01**	0.01**	0.01**	-0.00	-0.00	0.00	0.01**	-0.00	0.00	0.00	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00	-0.00**	-0.00**	-0.00**	-0.00**	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.12**	0.13**	0.09**	0.13**	0.14**	0.11**	0.15**	0.20**	-0.04	-0.07	-0.08	0.02	0.00	-0.00	-0.01	-0.03
	(0.03)	(0.03)	(0.03)	(0.02)	(0.05)	(0.04)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.03)	(0.06)	(0.05)	(0.04)	(0.04)
educ_third	0.50**	0.51**	0.49**	0.53**	0.66**	0.58**	0.62**	0.62**	0.53**	0.56**	0.54**	0.47**	0.40**	0.60**	0.67**	0.67**
	(0.04)	(0.04)	(0.04)	(0.02)	(0.06)	(0.04)	(0.04)	(0.04)	(0.07)	(0.07)	(0.07)	(0.04)	(0.08)	(0.05)	(0.05)	(0.05)
educ_sec	0.27**	0.26**	0.26**	0.22**	0.20**	0.16**	0.19**	0.20**	0.29**	0.26**	0.31**	0.23**	0.12*	0.31**	0.35**	0.34**
	(0.03)	(0.03)	(0.03)	(0.02)	(0.05)	(0.04)	(0.04)	(0.03)	(0.05)	(0.05)	(0.05)	(0.03)	(0.07)	(0.04)	(0.04)	(0.05)
tenure	0.01**	0.01**	0.01**	n.a.	0.03**	0.03**	0.02**	0.02**	0.02**	0.02**	0.02**	n.a.	0.03	0.02**	0.03**	0.02**
	(0.00)	(0.00)	(0.00)	n.a.	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	n.a.	(0.02)	(0.01)	(0.01)	(0.01)
intercept	6.98**	6.98**	7.04**	6.81**	7.05**	6.93**	6.89**	7.01**	7.12**	7.14**	7.08**	7.02**	7.26**	6.93**	7.01**	6.90**
	(0.06)	(0.06)	(0.07)	(0.03)	(0.11)	(0.09)	(0.09)	(0.10)	(0.13)	(0.12)	(0.11)	(0.07)	(0.33)	(0.28)	(0.22)	(0.18)
N	491	514	456	1 425	141	294	354	323	227	246	209	601	93	181	230	206
R^2	0.50	0.52	0.48	0.54	0.58	0.52	0.55	0.57	0.42	0.40	0.46	0.31	0.42	0.49	0.48	0.47

Table B.1 OLS estimates *(Cont.)*

France

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.00	0.02	0.01	0.01	-0.03	-0.06**	-0.06**	-0.07**	0.01	0.06**	0.07**	0.06**	0.01	0.01	0.01	-0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00	-0.00*	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.05**	0.08**	0.08**	0.10**	0.12**	0.11**	0.12**	0.12**	-0.01	-0.03*	-0.02	-0.04**	-0.03	-0.01	-0.02	-0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.57**	0.55**	0.51**	0.50**	0.50**	0.53**	0.50**	0.50**	0.49**	0.48**	0.46**	0.44**	0.47**	0.46**	0.44**	0.43**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.17**	0.16**	0.13**	0.11**	0.12**	0.15**	0.12**	0.12**	0.15**	0.12**	0.10**	0.07**	0.11**	0.15**	0.15**	0.13**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.02**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.58**	6.56**	6.59**	6.63**	6.53**	6.46**	6.49**	6.52**	6.48**	6.49**	6.54**	6.61**	6.56**	6.40**	6.41**	6.49**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
N	1 788	1 982	1 875	1 668	1 433	1 324	1 265	1 080	1 218	1 397	1 353	1 186	1 030	983	962	815
R^2	0.37	0.39	0.38	0.38	0.41	0.47	0.48	0.44	0.34	0.41	0.40	0.37	0.39	0.39	0.38	0.35

Ireland

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.10**	0.09**	0.09**	0.06**	0.05**	0.03	0.07**	0.11**	0.18**	0.19**	0.22**	0.19**	0.15**	0.11**	0.11**	0.18**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.00*	0.00**	0.00*	0.00**	0.00**	0.00*	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00*	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.32**	0.30**	0.23**	0.22**	0.20**	0.22**	0.21**	0.18**	0.05	0.04	0.04	0.01	-0.01	0.02	-0.00	-0.04
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
educ_third	0.35**	0.36**	0.33**	0.34**	0.33**	0.36**	0.32**	0.34**	0.32**	0.32**	0.34**	0.35**	0.39**	0.42**	0.46**	0.44**
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)
educ_sec	0.20**	0.18**	0.15**	0.12**	0.11**	0.13**	0.09**	0.08**	0.14**	0.10**	0.12**	0.10**	0.13**	0.13**	0.20**	0.21**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.02**	0.02**	0.02**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.34**	6.49**	6.55**	6.65**	6.68**	6.75**	6.96**	7.11**	6.40**	6.50**	6.48**	6.55**	6.60**	6.70**	6.81**	6.95**
	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)	(0.06)	(0.06)	(0.07)	(0.07)	(0.09)
N	1 191	1 375	1 220	1 142	1 047	906	711	579	579	725	648	590	551	506	424	327
R^2	0.53	0.50	0.50	0.51	0.47	0.46	0.43	0.40	0.44	0.42	0.50	0.50	0.49	0.50	0.50	0.43

Table B.1 OLS estimates *(Cont.)*

Italy

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.00	-0.00	-0.01	0.00	-0.00	-0.00	-0.00	-0.02	0.06**	0.06**	0.04**	0.08**	0.07**	0.07**	0.09**	0.07**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.01**	0.01**	0.00**	0.00**	0.00**	0.00*	0.00**	0.00*	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00*	-0.00	-0.00*	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.10**	0.10**	0.09**	0.09**	0.08**	0.09**	0.07**	0.09**	-0.00	0.02	0.02*	0.02	0.02	-0.00	-0.01	-0.03**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.37**	0.32**	0.34**	0.34**	0.30**	0.27**	0.27**	0.31**	0.27**	0.28**	0.30**	0.26**	0.30**	0.30**	0.28**	0.30**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.13**	0.12**	0.12**	0.11**	0.10**	0.09**	0.09**	0.09**	0.16**	0.17**	0.17**	0.15**	0.16**	0.16**	0.13**	0.16**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
tenure	0.00**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.00**	0.00**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.46**	6.48**	6.53**	6.58**	6.61**	6.64**	6.62**	6.62**	6.33**	6.32**	6.38**	6.45**	6.43**	6.48**	6.52**	6.55**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
N	2 091	2 403	2 321	2 090	1 976	1 885	1 796	1 463	991	1 250	1 215	1 089	1 034	997	988	808
R^2	0.29	0.29	0.29	0.30	0.26	0.25	0.27	0.28	0.29	0.31	0.30	0.29	0.31	0.30	0.31	0.29

Greece

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.04*	0.04**	0.06**	0.11**	0.08**	0.10**	0.09**	0.05**	0.10**	0.10**	0.11**	0.18**	0.17**	0.18**	0.15**	0.14**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
age	0.01**	0.00**	0.00**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00	0.00*	0.00	0.00**	0.00**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00*	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.13**	0.14**	0.14**	0.15**	0.14**	0.10**	0.10**	0.09**	0.02	0.03	0.05**	0.05**	0.03	0.05*	0.03	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.28**	0.29**	0.29**	0.26**	0.29**	0.31**	0.28**	0.30**	0.23**	0.21**	0.23**	0.31**	0.34**	0.35**	0.31**	0.34**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.14**	0.14**	0.13**	0.12**	0.13**	0.14**	0.13**	0.13**	0.12**	0.11**	0.13**	0.15**	0.14**	0.14**	0.12**	0.14**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	5.69**	5.80**	5.90**	5.94**	5.95**	5.93**	5.95**	5.98**	5.65**	5.72**	5.84**	5.82**	5.91**	5.88**	5.93**	5.89**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)	(0.07)	(0.06)	(0.05)	(0.06)	(0.05)	(0.06)	(0.06)	(0.06)
N	1 061	1 252	1 195	1 098	1 007	969	965	886	525	663	622	595	570	550	579	520
R^2	0.37	0.38	0.39	0.44	0.46	0.47	0.46	0.44	0.43	0.45	0.49	0.56	0.53	0.61	0.58	0.56

Table B.1 OLS estimates *(Cont.)*

Spain

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.09**	0.08**	0.06**	0.04**	0.03	0.05**	-0.00	0.01	0.18**	0.19**	0.17**	0.12**	0.12**	0.14**	0.16**	0.14**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.01**	0.01**	0.01**	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.08**	0.09**	0.09**	0.09**	0.09**	0.10**	0.08**	0.08**	-0.00	0.00	0.03	0.04*	0.03	0.01	0.00	0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.37**	0.36**	0.36**	0.38**	0.36**	0.30**	0.30**	0.31**	0.43**	0.41**	0.37**	0.42**	0.41**	0.40**	0.35**	0.36**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
educ_sec	0.17**	0.18**	0.18**	0.17**	0.12**	0.13**	0.11**	0.13**	0.21**	0.20**	0.16**	0.20**	0.17**	0.18**	0.16**	0.15**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.02**	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.18**	6.26**	6.27**	6.28**	6.33**	6.41**	6.47**	6.56**	6.02**	6.07**	6.18**	6.11**	6.11**	6.19**	6.33**	6.37**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
N	1 838	2 090	1 953	1 818	1 745	1 741	1 701	1 467	770	916	889	849	851	877	898	772
R^2	0.37	0.39	0.41	0.42	0.41	0.39	0.38	0.34	0.54	0.52	0.52	0.51	0.51	0.51	0.47	0.44

Portugal

	Men								Women							
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000
public	0.09**	0.10**	0.08**	0.07**	0.04**	0.06**	0.06**	0.06**	0.20**	0.20**	0.18**	0.19**	0.14**	0.15**	0.11**	0.14**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.09**	0.08**	0.09**	0.08**	0.08**	0.09**	0.11**	0.09**	0.02	-0.00	0.00	0.00	0.02	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.73**	0.74**	0.75**	0.76**	0.71**	0.73**	0.71**	0.70**	0.71**	0.74**	0.77**	0.78**	0.78**	0.76**	0.80**	0.81**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
educ_sec	0.24**	0.28**	0.25**	0.28**	0.25**	0.24**	0.23**	0.22**	0.39**	0.39**	0.37**	0.38**	0.33**	0.32**	0.28**	0.27**
	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	5.70**	5.73**	5.78**	5.82**	5.87**	5.93**	5.95**	6.02**	5.43**	5.47**	5.51**	5.56**	5.58**	5.65**	5.69**	5.71**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
N	1 629	1 897	1 933	1 921	1 910	1 920	1 893	1 681	1 048	1 240	1 274	1 309	1 334	1 368	1 418	1 263
R^2	0.34	0.37	0.38	0.39	0.39	0.38	0.39	0.34	0.56	0.58	0.59	0.61	0.65	0.65	0.66	0.67

Table B.1 OLS estimates *(Cont.)*

Austria

Men

	1994	1995	1996	1997	1998	1999	2000
public	-0.00	0.00	-0.02	-0.02	-0.02	-0.03	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00*	-0.00	0.00	-0.00	0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.08**	0.08**	0.05**	0.07**	0.06**	0.07**	0.06**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.42**	0.39**	0.37**	0.41**	0.41**	0.39**	0.42**
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)
educ_sec	0.15**	0.14**	0.13**	0.13**	0.14**	0.12**	0.18**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
tenure	0.00	0.00*	0.00**	0.00**	0.00*	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.67**	6.64**	6.69**	6.70**	6.77**	6.85**	6.83**
	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)
N	1 285	1 455	1 364	1 293	1 181	1 087	937
R^2	0.23	0.22	0.21	0.24	0.23	0.21	0.18

Women

	1994	1995	1996	1997	1998	1999	2000
public	0.12**	0.07**	0.07**	0.08**	0.07**	0.09**	0.05*
	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
age	0.01**	0.01**	0.01**	0.00**	0.00**	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00	-0.00	-0.00	0.00	-0.00	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	-0.05*	-0.03	-0.04*	-0.01	-0.04*	-0.04*	-0.03
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.48**	0.47**	0.41**	0.37**	0.39**	0.37**	0.42**
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)
educ_sec	0.20**	0.22**	0.19**	0.16**	0.15**	0.14**	0.17**
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
tenure	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.50**	6.41**	6.48**	6.55**	6.59**	6.69**	6.68**
	(0.07)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.06)
N	599	740	691	651	616	579	473
R^2	0.41	0.37	0.42	0.44	0.43	0.45	0.45

Finland

Men

	1995	1996	1997	1998	1999	2000
public	-0.03**	-0.04**	-0.02	-0.04**	-0.04**	-0.04**
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	0.01	0.03*	0.01	0.01	0.03	0.04**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_third	0.30**	0.31**	0.26**	0.27**	0.23**	0.25**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
educ_sec	0.09**	0.09**	0.06**	0.05**	0.05**	0.04*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
tenure	0.00*	0.01**	0.01**	0.01**	0.00**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.58**	6.64**	6.77**	6.80**	6.91**	6.97**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
N	1 177	1 309	1 264	1 211	993	879
R^2	0.29	0.30	0.26	0.30	0.27	0.26

Women

	1995	1996	1997	1998	1999	2000
public	-0.03**	-0.02	-0.02	-0.03*	-0.03*	-0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
age	0.01**	0.01**	0.01**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
age^2	-0.00**	-0.00**	-0.00**	-0.00**	-0.00	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
married	-0.03**	-0.02*	-0.05**	-0.03**	-0.02	-0.02
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
educ_third	0.27**	0.26**	0.27**	0.27**	0.27**	0.27**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
educ_sec	0.07**	0.05**	0.07**	0.09**	0.07**	0.07**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
tenure	0.00*	0.01**	0.00**	0.00**	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
intercept	6.47**	6.51**	6.58**	6.57**	6.67**	6.75**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
N	1 098	1 256	1 205	1 133	924	803
R^2	0.26	0.25	0.27	0.25	0.24	0.23

Table B.2 QR estimates

Germany

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.03	0.03**	0.04**	0.06**	0.01	0.17**	0.14**	0.10**	0.05**	0.06**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)	(0.02)	(0.01)	(0.02)	(0.03)
1994	0.05**	0.04**	0.04**	0.05**	0.02	0.17**	0.17**	0.12**	0.07**	0.06**
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)
1995	0.05**	0.06**	0.06**	0.06**	0.05**	0.21**	0.15**	0.10**	0.05**	0.04**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
1996	0.09**	0.07**	0.05**	0.07**	0.05**	0.22**	0.12**	0.07**	0.04*	0.05*
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
1997	0.08**	0.06**	0.05**	0.06**	0.08**	0.16**	0.10**	0.04**	0.03	0.04
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.01)	(0.02)	(0.03)
1998	0.08**	0.08**	0.06**	0.06**	0.03	0.16**	0.12**	0.05**	0.04	0.03
	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
1999	0.10**	0.10**	0.08**	0.08**	0.05*	0.20**	0.12**	0.03*	0.05**	0.08**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
2000	0.10**	0.10**	0.08**	0.08**	0.05*	0.17**	0.11**	0.06**	0.04	0.05*
	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)

The Netherlands

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.01	0.03*	0.01	-0.02	-0.03	0.12**	0.07**	0.06**	0.03	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
1994	0.00	0.02	0.01	0.01	-0.02	0.09**	0.06**	0.05**	0.03	0.01
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.04)
1995	-0.00	0.02	0.01	-0.01	-0.01	0.08**	0.07**	0.05**	-0.01	-0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.05)
1996	0.01	0.01	0.01	-0.01	-0.05**	0.10**	0.07**	0.05**	-0.01	0.03
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.03)	(0.05)
1997	0.01	0.03*	0.01	-0.03	-0.08**	0.11**	0.09**	0.07**	0.04	0.05
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.03)	(0.03)	(0.04)
1998	0.01	0.03	0.02	-0.05**	-0.10**	0.09**	0.09**	0.06**	-0.01	-0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.05)
1999	0.00	0.02	0.00	-0.02	-0.06**	0.04	0.04	0.04	0.01	0.01
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.03)	(0.02)	(0.03)	(0.04)
2000	0.01	0.01	-0.02	-0.05*	-0.10**	-0.01	0.08**	0.07**	0.00	0.03
	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)

Notes: The table presents the coefficient of the public sector dummy, estimated using traditional QR. The estimations were conducted pooling data for each country and each wave in the panel, separately for men and women. Coefficients tagged with * are significant at the 10 per cent level, whereas ** signals significance at the 5 per cent level. Bootstrapped standard-errors (with 100 replications) are presented in parentheses.

Table B.2 QR estimates (*Cont.*)

Belgium

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	-0.07	0.02	-0.03	-0.10**	-0.06	0.05	0.07**	0.03	0.04	0.05
	(0.09)	(0.03)	(0.03)	(0.04)	(0.05)	(0.07)	(0.03)	(0.04)	(0.04)	(0.05)
1994	0.01	0.01	-0.04	-0.07*	-0.06	0.06	0.04*	0.02	-0.01	-0.04
	(0.04)	(0.03)	(0.03)	(0.04)	(0.05)	(0.15)	(0.03)	(0.03)	(0.03)	(0.05)
1995	0.01	0.02	-0.04	-0.09**	-0.07	0.10**	0.10**	0.03	0.00	0.02
	(0.06)	(0.03)	(0.03)	(0.03)	(0.06)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)
1996	0.01	0.02	0.01	-0.04	-0.09	0.14**	0.07**	0.01	-0.02	-0.05
	(0.04)	(0.03)	(0.05)	(0.04)	(0.07)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)
1997	-0.03	-0.03	-0.01	-0.00	-0.05	0.07	0.08**	0.05	-0.06	-0.04
	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)	(0.04)	(0.03)	(0.04)	(0.04)	(0.07)

Luxembourg

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.30**	0.23**	0.17**	0.10**	0.07	0.35**	0.25**	0.21**	0.10	0.03
	(0.05)	(0.05)	(0.04)	(0.04)	(0.05)	(0.08)	(0.08)	(0.10)	(0.08)	(0.09)
1994	0.30**	0.27**	0.22**	0.11**	0.07	0.25**	0.16	0.09	0.12	0.10
	(0.07)	(0.05)	(0.03)	(0.04)	(0.05)	(0.11)	(0.10)	(0.09)	(0.08)	(0.10)
1995	0.28**	0.29**	0.22**	0.13**	0.08*	0.36	0.17**	0.12*	0.06	-0.01
	(0.09)	(0.05)	(0.04)	(0.04)	(0.04)	(0.30)	(0.08)	(0.07)	(0.08)	(0.11)
1996	0.30**	0.27**	0.20**	0.11**	0.06**	0.15**	0.30**	0.24**	0.13**	0.06*
	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.06)	(0.04)	(0.03)	(0.03)	(0.03)
1997	0.25**	0.15**	0.03	0.07	0.01	0.28	0.26**	0.26**	0.21*	0.15
	(0.10)	(0.07)	(0.09)	(0.12)	(0.09)	(0.17)	(0.11)	(0.07)	(0.11)	(0.12)
1998	0.04	0.16	0.19**	0.09*	-0.03	0.18**	0.18*	0.20**	0.13*	0.08
	(0.15)	(0.13)	(0.07)	(0.05)	(0.07)	(0.08)	(0.10)	(0.06)	(0.07)	(0.09)
1999	0.10	0.13**	0.08*	0.03	0.07	0.07	0.10	0.09	0.10	0.14
	(0.11)	(0.06)	(0.05)	(0.06)	(0.09)	(0.14)	(0.06)	(0.06)	(0.09)	(0.12)
2000	0.16	0.15**	0.11**	0.01	-0.00	0.08	0.09	0.08	0.09	0.11
	(0.10)	(0.04)	(0.04)	(0.05)	(0.09)	(0.07)	(0.08)	(0.08)	(0.08)	(0.13)

Table B.2 QR estimates (*Cont.*)

France

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.03	0.02	0.01	0.00	-0.08**	0.11**	0.07**	0.02	-0.05**	-0.11**
	(0.03)	(0.03)	(0.02)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
1994	0.06**	0.03	0.03	0.03	-0.01	0.12**	0.11**	0.06**	0.01	-0.02
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
1995	0.04*	0.03	0.03	0.02	-0.01	0.12**	0.12**	0.05**	0.02	-0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)
1996	0.06	0.01	0.01	0.00	-0.04	0.12**	0.10**	0.05**	0.02	0.04
	(0.04)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
1997	0.01	-0.01	-0.01	-0.04	-0.10**	0.02	0.04*	0.03	-0.02	-0.04
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)
1998	-0.01	-0.03	-0.07**	-0.06*	-0.05	0.06	0.06**	0.02	-0.04	-0.02
	(0.04)	(0.02)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)	(0.02)	(0.03)	(0.04)
1999	-0.03	-0.04	-0.03	-0.09**	-0.14**	0.07	0.06**	0.02	-0.03	-0.10**
	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)
2000	-0.01	0.00	-0.05**	-0.11**	-0.10*	0.07**	0.06**	0.03	-0.04	-0.12**
	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)

Ireland

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.17**	0.15**	0.08**	0.04	0.01	0.27**	0.21**	0.16**	0.13**	0.14**
	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)
1994	0.20**	0.13**	0.09**	0.03	-0.01	0.24**	0.22**	0.19**	0.16**	0.15**
	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.07)	(0.04)	(0.03)	(0.04)	(0.04)
1995	0.16**	0.16**	0.05**	0.03	0.01	0.24**	0.24**	0.23**	0.18**	0.22**
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)	(0.04)	(0.03)	(0.03)	(0.05)
1996	0.05	0.08**	0.06**	0.03	0.01	0.21**	0.25**	0.17**	0.15**	0.20**
	(0.04)	(0.03)	(0.02)	(0.03)	(0.03)	(0.06)	(0.03)	(0.04)	(0.05)	(0.05)
1997	0.06	0.03	0.07**	0.01	0.01	0.22**	0.21**	0.15	0.10**	0.08
	(0.04)	(0.04)	(0.02)	(0.02)	(0.04)	(0.05)	(0.04)	(0.14)	(0.04)	(0.06)
1998	0.12**	0.02	0.05	0.00	-0.05	0.09	0.14**	0.11**	0.09**	0.12**
	(0.05)	(0.04)	(0.03)	(0.03)	(0.04)	(0.09)	(0.06)	(0.03)	(0.04)	(0.05)
1999	0.14**	0.07	0.05*	0.03	-0.02	0.13**	0.10**	0.13**	0.07	0.11
	(0.04)	(0.05)	(0.03)	(0.04)	(0.05)	(0.06)	(0.04)	(0.04)	(0.05)	(0.07)
2000	0.15**	0.13**	0.06	0.09*	0.09*	0.20**	0.20**	0.15**	0.12**	0.18**
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.07)	(0.06)	(0.04)	(0.06)	(0.09)

Table B.2 QR estimates (*Cont.*)

Italy

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.04**	0.02	0.02	0.01	-0.03	0.18**	0.13**	0.05**	0.03	-0.00
	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
1994	0.02	0.01	-0.00	-0.00	-0.03	0.21**	0.12**	0.06**	0.00	-0.03
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
1995	-0.00	-0.01	-0.00	-0.00	-0.02	0.15**	0.12**	0.04**	-0.00	-0.08**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
1996	0.04**	0.00	0.01	-0.00	0.01	0.20**	0.12**	0.06**	0.05*	0.00
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
1997	0.03	0.00	0.00	-0.01	-0.02	0.20**	0.11**	0.06**	0.03	-0.02
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.04)
1998	0.03	0.02	-0.01	0.00	-0.02	0.16**	0.11**	0.06**	0.02	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)
1999	-0.00	-0.00	0.01	-0.00	-0.02	0.18**	0.12**	0.09**	0.05**	0.03
	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
2000	0.01	0.01	-0.00	-0.02	-0.06**	0.18**	0.11**	0.08**	0.03	-0.02
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.03)	(0.02)	(0.02)	(0.05)

Greece

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.13**	0.07**	0.05**	0.00	-0.00	0.17**	0.14**	0.12**	0.07**	0.04
	(0.04)	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)	(0.06)
1994	0.10**	0.09**	0.05**	-0.00	-0.02	0.18**	0.16**	0.13**	0.09**	0.04
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.02)	(0.03)	(0.06)
1995	0.14**	0.10**	0.07**	0.04*	0.02	0.17**	0.13**	0.12**	0.07**	0.06
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.04)	(0.02)	(0.03)	(0.03)	(0.08)
1996	0.19**	0.17**	0.11**	0.10**	0.02	0.22**	0.24**	0.22**	0.16**	0.17**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.05)
1997	0.17**	0.15**	0.09**	0.09**	0.02	0.26**	0.24**	0.20**	0.12**	0.06
	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.05)	(0.02)	(0.03)	(0.03)	(0.04)
1998	0.19**	0.16**	0.11**	0.11**	0.01	0.26**	0.25**	0.21**	0.12**	0.09*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.05)
1999	0.17**	0.12**	0.12**	0.07**	0.01	0.17**	0.20**	0.20**	0.11**	0.08*
	(0.05)	(0.03)	(0.02)	(0.02)	(0.04)	(0.06)	(0.03)	(0.03)	(0.03)	(0.04)
2000	0.15**	0.10**	0.08**	0.04	-0.03	0.15**	0.18**	0.17**	0.09**	0.05
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.02)	(0.03)	(0.06)

Table B.2 QR estimates (*Cont.*)

Spain

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.15**	0.13**	0.09**	0.06**	0.02	0.26**	0.20**	0.15**	0.16**	0.14**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.03)	(0.02)	(0.03)	(0.05)
1994	0.16**	0.14**	0.09**	0.02	-0.03	0.25**	0.19**	0.19**	0.16**	0.14**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
1995	0.12**	0.12**	0.08**	0.02	-0.01	0.25**	0.17**	0.19**	0.15**	0.09**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.05)	(0.03)	(0.02)	(0.03)	(0.04)
1996	0.09**	0.09**	0.05**	-0.01	-0.02	0.22**	0.16**	0.11**	0.05	-0.01
	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.05)
1997	0.09**	0.07**	0.03	-0.02	-0.03	0.18**	0.13**	0.13**	0.05*	0.02
	(0.03)	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)
1998	0.09**	0.07**	0.05	0.02	-0.03	0.17**	0.18**	0.16**	0.12**	0.01
	(0.03)	(0.02)	(0.03)	(0.03)	(0.04)	(0.05)	(0.03)	(0.03)	(0.03)	(0.05)
1999	0.07**	0.04*	-0.02	-0.04	-0.06	0.24**	0.21**	0.18**	0.16**	0.00
	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)	(0.06)
2000	0.10**	0.02	-0.02	-0.05	-0.06*	0.26**	0.17**	0.14**	0.12**	0.05
	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.06)

Portugal

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1993	0.10**	0.06**	0.04	0.14**	0.14**	0.20**	0.21**	0.20**	0.19**	0.18**
	(0.04)	(0.03)	(0.03)	(0.05)	(0.04)	(0.04)	(0.02)	(0.03)	(0.04)	(0.05)
1994	0.12**	0.07**	0.04	0.13**	0.16**	0.21**	0.21**	0.19**	0.16**	0.14**
	(0.02)	(0.03)	(0.04)	(0.05)	(0.05)	(0.03)	(0.02)	(0.02)	(0.04)	(0.05)
1995	0.12**	0.06**	0.03	0.10**	0.06	0.20**	0.19**	0.16**	0.17**	0.15**
	(0.02)	(0.02)	(0.03)	(0.04)	(0.06)	(0.02)	(0.02)	(0.02)	(0.04)	(0.05)
1996	0.08**	0.04**	0.06**	0.10**	0.07	0.17**	0.21**	0.17**	0.19**	0.15**
	(0.03)	(0.02)	(0.03)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.04)	(0.05)
1997	0.06**	0.02	0.00	0.02	0.05	0.18**	0.18**	0.15**	0.10**	0.07*
	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)
1998	0.04*	0.04	0.04	0.06**	0.07*	0.17**	0.16**	0.14**	0.12**	0.07
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)	(0.05)
1999	0.05**	0.05**	0.03	0.03	0.09**	0.13**	0.13**	0.13**	0.08**	0.06
	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.04)
2000	0.03	0.06**	0.04	0.03	0.04	0.15**	0.15**	0.14**	0.10**	0.07
	(0.03)	(0.02)	(0.04)	(0.05)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.05)

Table B.2 QR estimates (*Cont.*)

Austria

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1994	0.01	-0.03	-0.03	-0.00	-0.04	0.10**	0.08**	0.10**	0.11**	0.12**
	(0.04)	(0.03)	(0.03)	(0.02)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)
1995	0.04	-0.03	-0.00	0.01	-0.07*	0.06	0.08**	0.06*	0.06*	-0.00
	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.05)	(0.03)	(0.04)	(0.03)	(0.04)
1996	-0.02	-0.04	0.01	-0.01	-0.03	0.05	0.08**	0.09**	0.09**	0.01
	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.04)	(0.02)	(0.03)	(0.04)	(0.04)
1997	-0.02	-0.04*	-0.03	-0.01	-0.02	0.06	0.08**	0.09**	0.08*	0.09**
	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.04)
1998	-0.01	-0.04*	-0.04	-0.01	-0.01	0.04	0.09**	0.12**	0.10**	0.08**
	(0.02)	(0.02)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)
1999	-0.07**	-0.05*	-0.00	-0.00	0.00	0.06	0.06*	0.08*	0.11**	0.06
	(0.03)	(0.03)	(0.03)	(0.02)	(0.05)	(0.05)	(0.04)	(0.05)	(0.03)	(0.04)
2000	-0.04	-0.03	-0.01	-0.00	0.04	0.07	0.05	0.06	0.05	0.05
	(0.04)	(0.03)	(0.03)	(0.03)	(0.05)	(0.07)	(0.04)	(0.04)	(0.03)	(0.04)

Finland

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
1995	-0.06*	-0.02	-0.03*	-0.05**	-0.04	-0.00	0.00	-0.02	-0.04**	-0.08**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)
1996	-0.01	-0.03	-0.04**	-0.05**	-0.05**	0.03	-0.00	-0.03*	-0.04**	-0.08**
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)
1997	-0.01	-0.03	-0.02	-0.05**	-0.04	0.01	0.01	0.00	-0.04**	-0.07**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
1998	-0.03	-0.05**	-0.05**	-0.08**	-0.06**	0.03	0.02	-0.02	-0.07**	-0.11**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.01)	(0.08)	(0.02)	(0.03)
1999	-0.01	-0.03	-0.04**	-0.06**	-0.06	0.02	0.02	-0.03*	-0.08**	-0.07**
	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
2000	-0.00	-0.01	-0.05**	-0.06**	-0.05	-0.03	0.01	-0.05**	-0.08**	-0.09**
	(0.03)	(0.03)	(0.02)	(0.03)	(0.04)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)

Table B.3 Fixed effects estimates

	Germany	Netherlands	Belgium	Luxembourg	France	Ireland	Italy	Greece	Spain	Portugal	Austria	Finland
Men												
public	0.02	-0.03**	0.00	0.01	-0.02	0.06**	-0.01	0.04**	-0.02	0.01	0.00	0.00
	(0.01)	(0.01)	(0.02)	(0.02)	(0.04)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
public_D93	-0.04**	0.04**	-0.02	-0.02	-0.03*	-0.00	0.00	-0.07**	0.07**	-0.03	n.a.	n.a.
	(0.01)	(0.01)	(0.03)	(0.02)	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)	(0.02)	n.a.	n.a.
public_D94	-0.04**	0.03**	-0.01	-0.01	-0.00	-0.02	-0.00	-0.07**	0.07**	-0.01	-0.02	n.a.
	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.03)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	n.a.
public_D95	-0.03**	0.04**	-0.00	-0.01	0.01	-0.03	-0.02	-0.04**	0.06**	0.01	-0.01	0.00
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)
public_D96	-0.03**	0.04**	-0.01	-0.01	0.01	-0.03	0.01	0.00	0.05**	-0.00	-0.02	0.01
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
public_D97	-0.02**	0.02**	n.a.	-0.01	-0.00	-0.03	0.01	0.01	0.04**	-0.01	-0.01	0.00
	(0.01)	(0.01)	n.a.	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D98	-0.02**	0.02**	n.a.	-0.02	0.00	-0.04*	0.00	0.03**	0.04**	-0.00	-0.01	-0.01
	(0.01)	(0.01)	n.a.	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D99	-0.00	0.01	n.a.	-0.03*	-0.01	-0.06**	0.00	0.02	0.00	0.00	-0.00	-0.01
	(0.01)	(0.01)	n.a.	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	24845	14731	2497	9095	12415	8171	16025	8433	14353	14784	8602	6833
R^2	0.18	0.41	0.13	0.33	0.22	0.51	0.32	0.57	0.35	0.47	0.14	0.35
Women												
	Germany	Netherlands	Belgium	Luxembourg	France	Ireland	Italy	Greece	Spain	Portugal	Austria	Finland
public	-0.01	-0.01	-0.02	0.07**	-0.12**	0.01	0.01	0.08**	-0.01	0.05**	-0.00	-0.02
	(0.02)	(0.01)	(0.03)	(0.02)	(0.06)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)
public_D93	-0.00	0.06**	-0.03	-0.06	-0.00	0.02	0.02	-0.10**	0.05**	-0.08**	n.a.	n.a.
	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)	n.a.	n.a.
public_D94	-0.01	0.05**	-0.03	-0.09**	0.03*	0.01	0.01	-0.09**	0.05**	-0.06**	0.06**	n.a.
	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	n.a.
public_D95	0.00	0.04**	-0.01	-0.05*	0.04**	0.03	-0.01	-0.08**	0.04**	-0.06**	0.02	0.02
	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)
public_D96	-0.00	0.03	-0.02	-0.08**	0.04**	0.03	0.01	0.02	0.00	-0.06**	0.01	0.02*
	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)
public_D97	-0.01	0.03**	n.a.	-0.03	0.03*	0.01	-0.00	0.00	0.01	-0.06**	0.01	0.01
	(0.01)	(0.01)	n.a.	(0.02)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)
public_D98	-0.02	0.02*	n.a.	-0.07**	0.03*	0.02	-0.00	0.04**	0.02	-0.05**	0.01	0.00
	(0.01)	(0.01)	n.a.	(0.02)	(0.01)	(0.03)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
public_D99	-0.01	-0.01	n.a.	-0.05**	0.03**	-0.01	-0.01	0.01	-0.00	-0.02**	0.02*	0.01
	(0.01)	(0.01)	n.a.	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
N	13 029	5 239	1 571	3 976	8 944	4 350	8 372	4 624	6 822	10 254	4 349	6 419
R^2	0.19	0.40	0.22	0.31	0.23	0.58	0.34	0.67	0.34	0.55	0.18	0.36

Notes: The table presents the coefficient of the public sector dummy estimated using fixed effects regressions applied to data for each country. The regressions were implemented on time-demeaned data and include a dummy for each of the seven first waves of the panel. The variation of the public sector coefficient over time can be assessed by analyzing the terms expressing its interaction with the wave dummies, also shown in the table. Coefficients tagged with * are significant at the 10 per cent level, whereas ** signals significance at the 5 per cent level. Robust standard-errors are presented in parentheses.

Table B.4 QR fixed effects estimates

	Men					Women				
Germany	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.00	0.02*	0.01	0.00	-0.01	-0.00	-0.01*	0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D93	-0.15**	-0.13**	-0.12**	-0.16**	-0.17**	-0.17**	-0.13**	-0.12**	-0.15**	-0.20**
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D94	-0.11**	-0.09**	-0.10**	-0.14**	-0.15**	-0.11**	-0.09**	-0.09**	-0.13**	-0.17**
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D95	-0.08**	-0.06**	-0.08**	-0.11**	-0.12**	-0.08**	-0.07**	-0.08**	-0.11**	-0.14**
	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D96	-0.09**	-0.08**	-0.09**	-0.12**	-0.11**	-0.07**	-0.08**	-0.09**	-0.11**	-0.14**
	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D97	-0.07**	-0.06**	-0.08**	-0.11**	-0.11**	-0.06**	-0.07**	-0.08**	-0.10**	-0.12**
	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D98	-0.05**	-0.05**	-0.06**	-0.09**	-0.08**	-0.06**	-0.05**	-0.07**	-0.08**	-0.09**
	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D99	-0.02**	-0.02**	-0.04**	-0.05**	-0.05**	-0.03**	-0.03**	-0.05**	-0.05**	-0.06**
	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
The Netherlands	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	-0.00	0.00	-0.01	-0.02**	-0.05**	-0.00	0.01	0.01	-0.01	-0.01
	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.03)
public_D93	0.04**	0.01	0.01	0.01	0.04**	0.05**	0.02	-0.01	-0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)
public_D94	0.02	0.00	0.00	0.02	0.04**	0.02	0.00	-0.02	-0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
public_D95	0.02*	0.00	0.01	0.02**	0.04**	0.02*	0.00	-0.02	-0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)
public_D96	0.03**	0.01	0.01	0.02**	0.04**	0.02	-0.01	-0.02*	0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.04)
public_D97	0.03**	0.00	-0.00	0.00	0.02	0.03**	0.02*	-0.00	0.01	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.04)
public_D98	0.02**	-0.00	0.01	0.01	0.02	0.03**	0.01*	-0.00	0.01	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.04)
public_D99	0.00	-0.00	-0.00	0.00	0.02	-0.00	-0.01	-0.02	-0.01	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)

Notes: The table presents the coefficient of the public sector dummy estimated using QR fixed effects regressions applied to data for each country (including a dummy for each of the seven first waves of the panel). The variation of the public sector coefficient over time can be assessed by analyzing the terms expressing its interaction with the wave dummies, also shown in the table. Coefficients tagged with * are significant at the 10 per cent level, whereas ** signals significance at the 5 per cent level. Bootstrapped standard-errors (with 100 replications) are presented in parentheses.

Table B.4 QR fixed effects estimates *(Cont.)*

Belgium

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.01	0.02*	0.02*	-0.00	-0.02	0.01	0.02**	0.02	0.00	0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
public_D93	-0.01	-0.01	-0.02	0.00	-0.00	-0.00	-0.02	-0.03**	-0.00	-0.01
	(0.06)	(0.01)	(0.01)	(0.02)	(0.04)	(0.05)	(0.02)	(0.01)	(0.02)	(0.03)
public_D94	0.01	-0.00	-0.02	-0.00	0.01	-0.01	-0.01	-0.02	-0.01	-0.03
	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)	(0.03)	(0.01)	(0.01)	(0.02)	(0.03)
public_D95	0.00	-0.00	-0.02	-0.01	0.05	0.00	-0.01	-0.02	0.00	-0.00
	(0.03)	(0.01)	(0.01)	(0.02)	(0.05)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)
public_D96	0.01	-0.01	-0.01	-0.01	-0.02	-0.03	-0.03**	-0.02*	-0.01	0.01
	(0.02)	(0.01)	(0.02)	(0.02)	(0.04)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)

Luxembourg

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	-0.02	0.01	-0.03	-0.03	-0.04	0.02	0.02	0.02	0.01	-0.01
	(0.04)	(0.02)	(0.02)	(0.02)	(0.05)	(0.03)	(0.02)	(0.03)	(0.03)	(0.05)
public_D93	-0.02	-0.04*	-0.03	-0.02	-0.03	-0.04	-0.06*	-0.02	-0.02	-0.02
	(0.05)	(0.02)	(0.03)	(0.03)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.06)
public_D94	-0.01	-0.03*	-0.02	-0.02	-0.01	-0.06**	-0.09**	-0.09**	-0.04	-0.04
	(0.05)	(0.02)	(0.02)	(0.03)	(0.05)	(0.03)	(0.02)	(0.04)	(0.04)	(0.06)
public_D95	-0.02	-0.02	0.01	0.00	0.01	-0.08*	-0.06**	-0.05	-0.03	-0.06
	(0.05)	(0.02)	(0.02)	(0.03)	(0.05)	(0.04)	(0.03)	(0.03)	(0.03)	(0.07)
public_D96	0.07	-0.03	0.01	0.01	0.02	0.03	-0.04*	-0.03	-0.03	-0.01
	(0.05)	(0.02)	(0.02)	(0.02)	(0.05)	(0.04)	(0.02)	(0.03)	(0.03)	(0.05)
public_D97	0.06	0.02	0.03	-0.00	-0.01	-0.00	-0.04	-0.08**	-0.04	0.09
	(0.06)	(0.03)	(0.03)	(0.03)	(0.08)	(0.08)	(0.04)	(0.04)	(0.08)	(0.11)
public_D98	-0.03	-0.05	-0.02	-0.01	-0.04	-0.01	-0.04	-0.05*	-0.02	-0.03
	(0.06)	(0.04)	(0.03)	(0.04)	(0.10)	(0.05)	(0.04)	(0.03)	(0.05)	(0.07)
public_D99	-0.03	-0.06*	-0.02	-0.03	-0.03	-0.06	-0.04	-0.06*	-0.03	-0.05
	(0.06)	(0.03)	(0.02)	(0.03)	(0.06)	(0.07)	(0.04)	(0.03)	(0.03)	(0.06)

Table B.4 QR fixed effects estimates *(Cont.)*

	Men					Women				
France	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	-0.02	-0.03**	-0.04**	-0.06**	-0.04*	-0.03*	-0.04**	-0.04**	-0.07**	-0.07**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D93	-0.04*	-0.02	-0.03*	-0.01	-0.06**	-0.02	-0.03*	-0.04**	-0.02	-0.02
	(0.02)	(0.02)	(0.01)	(0.01)	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)
public_D94	-0.02	-0.01	-0.01	0.01	-0.01	0.00	0.00	-0.00	0.01	0.00
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D95	-0.01	-0.00	-0.00	0.02**	0.01	0.01	0.01	0.01	0.03**	0.04*
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D96	0.01	-0.00	-0.00	0.02*	-0.00	0.00	0.02	0.01	0.03**	0.03
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D97	-0.00	-0.00	-0.01	0.01	-0.02	0.02	0.01	-0.00	0.01	0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
public_D98	0.00	-0.00	0.01	0.03**	-0.02	0.02	0.02	0.02*	0.02**	0.00
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.01)	(0.01)	(0.01)	(0.02)
public_D99	-0.00	-0.00	-0.01	0.01	-0.01	0.04*	0.03**	0.02	0.02*	0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
Ireland	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.14**	0.18**	0.10**	0.07**	0.14**	0.08**	0.08**	0.11**	0.12**	0.04
	(0.03)	(0.02)	(0.02)	(0.02)	(0.05)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
public_D93	-0.08**	-0.15**	-0.06**	-0.05**	-0.13**	-0.11**	-0.11**	-0.09**	-0.09**	-0.01
	(0.03)	(0.02)	(0.02)	(0.02)	(0.06)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)
public_D94	-0.10**	-0.15**	-0.07**	-0.04**	-0.12**	-0.10**	-0.10**	-0.09**	-0.10**	-0.05
	(0.03)	(0.02)	(0.02)	(0.02)	(0.05)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)
public_D95	-0.11**	-0.15**	-0.08**	-0.05**	-0.11*	-0.06	-0.08**	-0.08**	-0.08**	-0.00
	(0.03)	(0.03)	(0.02)	(0.02)	(0.06)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)
public_D96	-0.09**	-0.14**	-0.08**	-0.04*	-0.09*	-0.05	-0.05	-0.06*	-0.06*	0.02
	(0.03)	(0.02)	(0.02)	(0.02)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.04)
public_D97	-0.04	-0.10**	-0.06**	-0.03	-0.11**	-0.02	-0.04	-0.05*	-0.08**	0.01
	(0.04)	(0.02)	(0.02)	(0.03)	(0.05)	(0.05)	(0.04)	(0.03)	(0.03)	(0.04)
public_D98	-0.08**	-0.10**	-0.04**	-0.04	-0.11*	0.00	-0.01	-0.04	-0.05*	0.02
	(0.04)	(0.02)	(0.02)	(0.02)	(0.06)	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)
public_D99	-0.07	-0.06**	-0.04*	-0.05*	-0.15**	-0.08*	-0.01	-0.03	-0.04	0.01
	(0.06)	(0.03)	(0.02)	(0.03)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)

Table B.4 QR fixed effects estimates *(Cont.)*

	Men					Women				
Italy	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.01	0.01*	0.01	-0.00	-0.01	0.03**	0.03**	0.03**	0.01*	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D93	0.00	-0.01	-0.02**	-0.02	-0.01	-0.02	-0.04**	-0.05**	-0.04**	-0.04**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D94	-0.02	-0.02**	-0.03**	-0.02*	-0.02	-0.05**	-0.06**	-0.07**	-0.04**	-0.04**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D95	-0.03**	-0.03**	-0.04**	-0.03**	-0.03	-0.05**	-0.05**	-0.06**	-0.05**	-0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D96	-0.00	-0.01	-0.02*	-0.01	-0.01	-0.02	-0.03**	-0.03**	-0.02*	-0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D97	0.00	-0.01	-0.01	-0.01	0.01	0.01	-0.03**	-0.03**	-0.04**	-0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D98	0.01	-0.00	-0.01	-0.01	-0.01	-0.01	-0.02**	-0.03**	-0.02*	-0.02
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D99	-0.00	-0.01	-0.00	-0.00	0.00	-0.00	-0.02*	-0.01	-0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
	Men					Women				
Greece	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.05**	0.07**	0.06**	0.04**	0.04**	0.04**	0.06**	0.08**	0.08**	0.08**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
public_D93	-0.04	-0.11**	-0.13**	-0.10**	-0.10**	-0.09**	-0.15**	-0.19**	-0.17**	-0.15**
	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
public_D94	-0.08**	-0.11**	-0.11**	-0.09**	-0.07**	-0.14**	-0.17**	-0.20**	-0.13**	-0.11**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
public_D95	-0.07**	-0.07**	-0.07**	-0.04*	-0.05**	-0.12**	-0.13**	-0.16**	-0.14**	-0.11**
	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
public_D96	-0.01	-0.02	-0.03*	0.00	0.02	0.03	-0.02	-0.03	-0.02	-0.03
	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)
public_D97	0.01	-0.02	0.00	0.00	-0.00	0.01	-0.00	-0.04*	-0.04	-0.06**
	(0.03)	(0.01)	(0.01)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
public_D98	0.04	0.01	0.02	0.03*	0.03	0.05**	0.02	-0.00	-0.00	0.01
	(0.03)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)
public_D99	0.03	0.01	0.01	0.03*	0.01	0.00	-0.01	-0.00	0.00	0.01
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)

Table B.4 QR fixed effects estimates *(Cont.)*

	Men					Women				
Spain	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.03**	0.02	0.00	-0.02	-0.04*	0.05**	0.05**	0.04**	0.02*	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D93	0.00	0.02	0.01	0.02	0.03	-0.02	-0.04**	-0.05**	-0.03	-0.04*
	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)
public_D94	0.00	0.00	0.01	0.02	0.03	-0.03	-0.03*	-0.03*	-0.03*	-0.03
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
public_D95	-0.00	0.00	0.02	0.02	0.05**	-0.01	-0.02*	-0.05**	-0.03*	-0.04*
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
public_D96	0.02	0.01	0.01	0.02	0.01	-0.04	-0.04**	-0.06**	-0.04**	-0.05**
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)
public_D97	0.00	0.01	0.00	0.02	0.01	-0.00	-0.02	-0.06**	-0.03**	-0.03
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
public_D98	0.04**	0.01	0.02*	0.04**	0.03	-0.01	-0.00	-0.01	-0.00	0.00
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
public_D99	0.02	0.02	0.01	-0.01	-0.01	-0.02	-0.01	-0.01	-0.02	0.03
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
	Men					Women				
Portugal	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	0.03**	0.03**	0.04**	0.04**	0.01	0.04**	0.05**	0.05**	0.09**	0.09**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D93	-0.05*	-0.04**	-0.07**	-0.07**	-0.04*	-0.09**	-0.09**	-0.09**	-0.11**	-0.11**
	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
public_D94	-0.01	-0.03**	-0.07**	-0.05**	-0.00	-0.06**	-0.07**	-0.08**	-0.10**	-0.10**
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
public_D95	-0.01	-0.03**	-0.04**	-0.05**	0.01	-0.03**	-0.06**	-0.07**	-0.09**	-0.10**
	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
public_D96	-0.00	-0.03**	-0.04**	-0.05**	-0.03	-0.04*	-0.06**	-0.07**	-0.09**	-0.09**
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
public_D97	0.01	-0.02	-0.03**	-0.05**	-0.02	-0.04**	-0.05**	-0.06**	-0.08**	-0.09**
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D98	-0.01	-0.01	-0.02*	-0.02	-0.01	-0.03*	-0.03**	-0.04**	-0.06**	-0.07**
	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D99	-0.01	-0.00	-0.01	-0.01	0.01	-0.00	-0.01	-0.02	-0.04**	-0.03
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)

Table B.4 QR fixed effects estimates *(Cont.)*

Austria

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	-0.00	0.01	0.01	0.01	0.02	-0.01	-0.00	0.02	0.02*	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D94	-0.00	-0.03*	-0.02	-0.01	-0.04*	0.03	0.02	0.01	0.02	0.05
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.03)
public_D95	0.02	0.00	-0.01	-0.00	-0.04	-0.02	-0.01	-0.03*	-0.02	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D96	0.00	-0.01	-0.03**	-0.02	-0.04	-0.00	-0.00	-0.03**	-0.02**	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)
public_D97	0.00	-0.00	-0.01	-0.01	-0.05**	0.00	-0.00	-0.02	-0.02	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D98	0.00	-0.01	-0.01	-0.00	-0.03	0.00	0.00	-0.02	-0.01	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D99	-0.01	-0.01	-0.00	0.01	-0.03	0.01	0.01	-0.01	0.00	0.03
	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)

Finland

	Men					Women				
	Q10	Q25	Q50	Q75	Q90	Q10	Q25	Q50	Q75	Q90
public	-0.01	0.01	0.01	0.01	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
public_D95	0.04	-0.00	-0.02*	-0.02	-0.02	0.01	0.01	-0.01	0.00	0.01
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D96	0.03	-0.01	-0.01	-0.00	-0.00	0.01	0.02	0.00	0.00	0.00
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D97	0.03	0.01	-0.01	-0.02	0.00	0.01	0.00	-0.00	-0.00	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)
public_D98	0.02	-0.00	-0.02**	-0.02	-0.00	0.00	-0.00	-0.01	-0.01	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
public_D99	0.01	-0.01	-0.01	-0.01	-0.01	0.02	0.02	0.01	-0.00	0.01
	(0.03)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.02)